

Technical **COMMUNICATION**

Journal of the Society for Technical Communication

SPECIAL ISSUE

LEGAL ISSUES IN GLOBAL CONTEXTS



- TECHNICAL COMMUNICATION IN THE HEALTH FIELDS
- WRITING FOR PARTICIPANTS OF INTERNATIONAL CLINICAL TRIALS
- CONDUCTING GLOBAL INTERNET RESEARCH
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About the Journal

Technical Communication is a peer-reviewed, quarterly journal published by the Society for Technical Communication (STC). It is aimed at an audience of technical communication practitioners and academics. The journal's goal is to contribute to the body of knowledge of the field of technical communication from a multidisciplinary perspective, with special emphasis on the combination of academic rigor and practical relevance.

Technical Communication publishes articles in five categories:

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- **Applied theory** – original contributions to technical communication theory
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- **Bibliography** – reviews of relevant research or bibliographic essays

The purpose of *Technical Communication* is to inform, not impress. Write in a clear, informal style, avoiding jargon and acronyms. Use the first person and active voice. Avoid language that might be considered sexist, and write with the journal's international audience in mind.

Our authority on spelling and usage is *The American Heritage Dictionary*, 4th edition; on punctuation, format, and citation style, the *Publication Manual of the American Psychological Association*, 6th edition.

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Legal Issues in Global Contexts: Reconsidering Content in an Age of Globalization

Today, we are repeatedly told “the world is flat.” Of course, this idea of a flat earth applies not to geography but to the information economy. Advances in communication technologies and international trade agreements allow unprecedented access to people and organizations around the world. It is a context in which we can interact as quickly and easily with colleagues and clients in other nations as with neighbors down the street. But are global interactions really that easy? Is the world really that flat? Our response to these questions is “not exactly.”

While advances in information technology continue to erode barriers of space and time, the resulting “flat” terrain is far from frictionless. Obstacles still exist. These *friction points* are often human constructs that reflect deep-seated cultural perspectives on appropriate behavior. Such cultural differences are often codified into laws that govern how individuals should behave—legally—in relation to producing and sharing ideas and information.

Why Should Technical Communicators Care?

The caring relates to content. Most of the legal differences that generate friction involve creating

and managing content. Copyright law is perhaps the greatest friction point affecting the flow of ideas and information. What rights individuals have over the content they create and how that content can be legally shared and used vary from nation to nation. When individuals try to share copyrighted materials across borders, legal systems can create friction that slows or stops the exchange.

Similarly, perspectives on privacy rights and who legally owns and can use an individual’s personal information (i.e., content) vary from one country to another. These variations can create content management problems (i.e., friction) when such information needs to be transmitted across borders to be compiled, collated, or archived. Differences in U.S. and EU laws, for example, affect what kinds of personal information can be shared freely via online media. In fact, the prospective restrictions that such differences could cause led to the development of principles governing how U.S.-based organizations should collect and treat information associated with EU citizens (see the Safe Harbor Principles, online at <http://www.export.gov/safeharbor/>).

Laws may also determine the language in which content must be

provided. Organizations wishing to expand into EU markets, for example, are generally required to translate all product-related materials into the official languages of EU member nations.

How do Technical Communicators Fit Into All of This?

Technical communicators are central players in today’s content game. We are often the ones who create the original informational and instructional content that is distributed across the globe. We are also at the forefront of content management through our work in single sourcing, distributed or collaborative authoring, and document design. Our role as documentation specialists may put us in the center of global webs in which we collect, manage, and exchange content with technical experts, editors, and collaborators in different nations. We may work with translators and localizers to manage the process of converting content to meet the expectations of overseas audiences. Our increasing experiences with usability make us aware of the legalities behind collecting content from research subjects, while our work with proprietary company information makes us conscious of aspects of disclosure

and ownership. As we branch out into areas such as medical communication and marketing communication, we increasingly deal with legal issues, including liability, misrepresentation, and negligence. Thus, our work makes us the content experts within our employing organizations.

And Now, the Important Question—What's in It For Us?

The answers are job security and the opportunity for advancement. Those at the center of content creation and content management are ideally positioned to add value to their organizations by developing practices that address legal friction points associated with international interactions.

So What's the Next Step?

To address global friction points, technical communicators must combine their knowledge of content creation and management with an understanding of international legal issues affecting

those practices. The first step is to identify key international legal issues and then learn how they affect content-related practices in international contexts. The five articles in this special issue help you take this step.

Nicole St. Germaine-McDaniel examines how migration and immigration within the United States have resulted in new national statutes governing translation and technical communication practices. Tatiana Batova reviews the clinical trials process to shed light on how technical communication practices and legal issues can intersect during content creation activities. Heidi A. McKee and James E. Porter present an approach to researching international legal and regulatory issues affecting technical communication practices. Liza Potts uses Actor Network Theory to analyze international content distribution issues—and their legal implications—related to digital rights management. And TyAnna K. Herrington examines

international copyright and fair use issues that can affect content creation and content management.

These articles provide a relatively broad-based review of legal issues affecting technical communication practices in global contexts. We hope that readers will use these ideas to create best practices and engage in research in the area of global legal issues. By working together to examine such issues, we can improve the flow of content across the flatter earth.

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Technical Communication in the Health Fields: Executive Order 13166 and Its Impact on Translation and Localization

Nicole St. Germaine-McDaniel

Abstract

Purpose: The ongoing implementation of the tenets of Executive Order (EO) 13166 is helping change the focus of localization and writing for translation for technical communicators. In this article, I will discuss EO 13166; its impact on hospitals, clinics, and limited English proficient (LEP) populations; and how technical communicators involved in translation and localization help medical professionals comply with the law. I will provide best practice strategies for localization practices in the health care industry worldwide.

Method: This article employs a literature review of government documentation for Executive Order 13166, as well as hospital and clinic reports of current localization practices designed to increase compliance with EO 13166.

Results: The review of current practices indicates that much work remains to be done by technical communicators to help hospitals and clinics comply with EO 13166, especially in the areas of visual icons and other localization efforts.

Conclusion: The best strategies for localizing health care information include the following:

1. Make the textual style of the information match that of the culture's expectations.
2. Research the preferences for graphics and color in medical documents for the target culture and use the preferred style in the documentation.
3. Use widely recognized symbols.
4. Use focus groups to test the localization strategy with representatives of the target culture.
5. Consider the content of the documentation when localizing, not just the style and format.

Keywords: localization, graphic design, health, Executive Order 13166

Practitioner's Takeaway

- Technical communicators working in localization and health information are poised at the forefront to revolutionize the ways in which health care information is localized.
- Wider use of focus groups (rather than reliance on traditional knowledge) has become essential for localization practices because of the trend toward localizing for smaller and more specific populations.
- Technical communicators should consider the culture's traditional views on medical information, wellness, and illness before they attempt to localize a document in terms of textual style, graphics, and color.

Executive Order 13166 and Its Impact on Translation and Localization

Overview

As Americans begin to focus on what constitutes fair and equal access to health care, questions arise about how language barriers affect access to health care services. According to the 2005 U.S. census, nearly one out of five Americans speak a language other than English at home; the resulting need for translation and interpretation services has given rise to legislation regulating which materials get translated and for which populations. Executive Order 13166 was designed to ensure that patients with limited English-speaking ability receive equal access to programs and health care through translation and interpretation services; it is a pivotal piece of legislation that is affecting how the medical profession treats the limited English proficient (LEP) population. Technical communicators and localization experts have assumed key roles in the effort to make health care information accessible to diverse populations in the United States.

In this article, I explore the impact of Executive Order 13166 and its effects on technical communication in the United States, and make recommendations for localizing health care information for LEP audiences, especially with regard to what technical communicators and localization experts can do globally to meet this emerging health communication crisis.

The Need for Health Information for LEP Populations in the United States

Each day, hospitals and clinics across the United States encounter limited English proficient (LEP) patients—persons defined by the U.S. Census Bureau as “speak[ing] English less than ‘very well’” (American Medical Association [AMA], 2006, p. 1). According to the American Community Survey (U.S. Census Bureau, 2005), more than 19% of Americans speak a language other than English at home. Many of the people who do not speak English at home (29% of Spanish-speakers, 22% of Asians and Pacific Islanders, and 13% of Indo-European language speakers) speak English “not well” or “not at all” (Hasnain-Wynia, Yonek, Pierce, Kang, & Hedges Greising, 2006, p. i). A

similar survey conducted by the Health Research and Educational Trust (HRET) revealed that 12–23 million U.S. residents (4.5%–8.6% of the population) speak English less than “very well” (p. i).

In addition, HRET found that 80% of hospitals encounter LEP patients “frequently,” which was defined as at least monthly (Hasnain-Wynia et al., 2006, p. 2). This is a very large population of LEP patients who need translation (written language) and interpretation (oral language) services in a health care setting (p. 29).

Medical translation and interpretation issues are not confined to the United States. Worldwide, there are an estimated 191 million immigrants, and immigration rates have more than doubled around the globe in the past 50 years (Shah, 2008). The United States has taken only 20% of these immigrants, while Europe has absorbed 33%. This situation has created what many consider to be a global health information crisis (Shah, 2008). The European Union has unique challenges, particularly in the regulation of documentation for medical devices. The EU makes up 30% of the medical device market, but it is having problems balancing the need for regulations to meet the needs of all users against the cost and time required to do so:

Regulations controlling the manufacturing, marketing and usage of medical devices in the EU are forcing manufacturers to incorporate language translation and localization into global development strategies as individual Member States demand product information in the language of the local user. (Regulatory Language Requirements and the European Union, 2005).

The need for more translation and localization efforts in medical contexts has led to an increased involvement of technical communicators as writers and localization experts in the health fields in every developed country. Research indicates that many organizations are attempting to accommodate immigrant populations by offering a greater number of translated materials for their clients. Organizations and agencies such as the American College of Obstetricians and Gynecologists (ACOG) and the Centers for Disease

Control (CDC) have been translating and localizing health materials in greater numbers since President Bill Clinton signed Executive Order 13166 in 2000 (St. Germaine-Madison, 2007; St. Germaine-Madison, 2009). However, our understanding of LEP populations in the United States and their needs in the health care setting is incomplete, because until now the focus has largely been on industry. Executive Order 13166 has served as an impetus for technical communicators in the United States to study and serve these populations in a variety of health care contexts, and to examine localization needs within these contexts.

The United States is by no means the only developed country that is struggling to accommodate increasingly diverse populations in the health care context. However, it makes for an interesting case study, because until Executive Order 13166 came into being, the United States had no regulations regarding the required amount or quality of translations for medical contexts. Examining how technical communicators are reacting to the monumental demand for revision of health care documentation to comply with the executive order can help organizations facing this pressure judge their own progress and perhaps learn from the mistakes made and the unique approaches taken by some U.S. health care agencies.

Overview of Executive Order 13166

In August 2000, President Bill Clinton issued Executive Order 13166: Improving Access to Services for Persons with Limited English Proficiency. The intent of this order was twofold: (1) to better enforce an existing act and (2) to impose a new obligation for all federal agencies to meet these nondiscrimination standards.

Regarding the first intent, Title VI of the Civil Rights Act of 1965 “prohibits recipients of federal financial assistance from discriminating based on national origin by, among other things, failing to provide meaningful access to individuals who are limited English proficient” (Limited English Proficiency Web site). Title VI, in effect, mandates that “persons with limited English proficiency get meaningful access to federally funded programs” (Wong, 2004, p. 2). Many agencies,

both public and private, receive some sort of federal assistance. In the context of health care, if a clinic, practice, or hospital accepts Medicaid or Medicare, this constitutes federal assistance, even if only one area of the hospital or clinic accepts federal funding (Schroeder, 2002). This includes most “hospitals, doctor’s offices, nursing homes, managed care organizations, state Medicaid agencies, home health agencies, health service providers, and social service organizations” (Sampson, 2006, p. 134).

Adapting to Executive Order 13166

In response to this mandate, hospitals, clinics, and other health care providers across the country have been scrambling to provide translated materials and interpreter assistance to their target users. Even 10 years later, many of these institutions are still working to increase their compliance with the order (Barrett, Dyer, & Westpheling, 2008), which means that technical writers and localization experts in the health care fields will have work for years to come just to make current programs, clinics, and hospitals compliant.

The language-assistance part of the order is intended to help LEP patients obtain federally supported health services. In the “Statement by the President,” Clinton expressed his desire to ensure equal access for LEP patients in the health care setting: “I am concerned that language barriers are preventing the Federal Government and recipients of federal financial assistance from effectively serving a large number of people in the country who are eligible to participate in their programs” (Clinton, 2000). According to Cindy Wong (2004), “This Executive Order provides ethical and statutory foundations for the provision of language assistance in health care on the basis of ensuring meaningful access to federally funded programs” (p. 4).

Helping LEP patients access programs such as Medicare and Medicaid is especially important, because LEP patients are less likely to enroll in federally funded programs and more likely to seek treatment at emergency rooms than to go to a clinic or urgent care facility. This situation has been called the “language barrier premium” (Sampson, 2006, p. 14). It drives up the cost of health care in the long run, because

Executive Order 13166 and Its Impact on Translation and Localization

covering unpaid bills for ER services ultimately costs the consumer more than enrolling these patients in federal programs (Scalia, 2007, p. 14). Because the health care system is increasingly being held accountable for such costs, translated and localized patient materials, in conjunction with trained medical interpretation, have become attractive options for many organizations (Scalia, 2007; U.S. Department of Health and Human Services [DHHS], 2001). The intent of EO 13166 is, in part, to encourage LEP patients to seek appropriate assistance from programs designed to help them pay for their care.

In addition, LEP patients suffer when the health care system lacks proper support for other languages and literacy levels. The *Language Services and Resource Guide* published by the National Health Law Program states, “Language barriers may affect the delivery of adequate care through poor exchange of information, loss of important cultural information, misunderstanding of physician instruction, poor shared decision making, or ethical compromises (e.g. difficulty obtaining informed consent)” (Sampson, 2006, p. 11). Difficulties caused by language barriers have serious consequences for the LEP patient. For instance, the Centers for Medicare & Medicaid Services (CMS) found that language barriers have a significant effect on patients with limited English-speaking abilities. Owing to language barriers, these patients—

1. Are less satisfied
2. Have fewer visits to physicians
3. Receive fewer preventive services
4. Are less likely to return or to use clinics
5. Score lower on health knowledge and understanding of diagnosis or treatment
6. Have longer hospital stays (Wong, 2004, p. 4).

The Health Research and Educational Trust found that these patients also have a higher incidence of receiving expensive medical tests, and poor or no follow-up after procedures that require after-care (Hasnain-Wynia et al., 2006, p. 1); and the AMA blames language barriers for delayed diagnoses, misunderstanding of care plans, medication errors, misuse of health services, and lack of trust and confidence in the physician (AMA, 2006, pp. 1–2).

How Executive Order 13166 Affects Translation Practices

Executive Order 13166 aims to remedy the problems caused by language barriers by requiring the translation of all medical documentation that is part of a “vital” service. What is considered to be vital can vary, and agencies have at least partial jurisdiction over which documents are defined as vital. However, the FAQ page on the Limited English Proficiency Web site (www.lep.gov) defines “vital documents” as follows:

[A document] that contains information that is critical for obtaining federal services and/or benefits, or is required by law. Vital documents include, for example, applications; consent and complaint forms; notices of rights and disciplinary action; notices advising LEP persons of the availability of free language assistance; prison rule books; written tests that do not assess English language competency...; and letters or notices that require a response from a beneficiary or client.

However, the Web site acknowledges, “It may sometimes be difficult to draw a distinction between vital and non-vital documents, particularly when considering outreach or other documents designed to raise awareness of rights or services.” Further, many agencies and hospitals that want to be in compliance with the executive order have noted problems with informed consent. How can an agency or health care setting be sure that a patient truly understands the procedure he or she is about to undergo? Many entities, such as the National Health Law Program, recommend the use of printed patient materials to elaborate on an interpreter’s explanation or to substitute for an interpreter if necessary (Sampson, 2006). Materials such as the patient information pamphlets—written by medical writers and technical communicators and issued by the American College of Obstetricians and Gynecologists—that are handed out at OB/GYN offices can become vital tools for ensuring compliance with the order. While interpretation may be the preferred format, the translated pamphlets are necessary

to fulfill the requirements of the law or to serve when appropriate medical interpretation is not available.

The second intent of the executive order was to impose a new obligation on all federal agencies to meet these nondiscrimination standards. Each federal agency must develop standards to comply with the order. Federal agencies such as DHHS, U.S. Citizenship and Immigration Services, and the Department of Justice have drawn up their own guidelines for translation and interpretation, and many organizations, such as the AMA, have developed additional guidelines for compliance (AMA, 2006). For DHHS, which oversees many of the programs and clinics that receive federal funding, nondiscrimination standards call for the recognition of—

- Linguistic variation within a cultural group
- Cultural variation within a language group
- Variations in literacy levels in all language groups.

In 2000, the DHHS Office of Minority Health issued National Standards on Culturally and Linguistically Appropriate Services in Health Care (Perkins, 2003, p. 14). Of the 14 standards, all apply to language; these two apply specifically to written language:

- Health care organizations must make available easily understood patient-related materials and post signage in the languages of commonly-encountered groups and/or groups represented in the service area.
- Health care organizations must provide to patients/consumers in their preferred language both verbal offers and written notices informing them of their right to receive language assistance services. (p. 14)

DHHS recommends that all clinics and programs recognize these needs, and states that being culturally sensitive is just one of many strategies to meet the needs of the patient population and comply with federal standards (DHHS, 2001, p. 2).

Noncompliance with Executive Order 13166

Failure to comply with the EO can have potentially severe consequences for clinics, hospitals, and programs. In her article “Meeting the Needs of Patients with Limited English Proficiency” (2001), attorney Colleen M. Roberts explained that the government

can terminate medical contracts with any physicians or agencies that do not comply with EO 13166 by not providing some sort of language assistance. Further, a legal precedent states that “health care providers not providing language assistance are negligent in facilitating clear communication and are ultimately obstructing informed consent, thus putting themselves at fault for malpractice suits where language services would have been appropriate” (Roberts, 2001, 71). In fact, DHHS has issued regulations prohibiting agencies that receive federal funds from engaging in the following activities:

- Using criteria or methods of administration which have the effect of discriminating because of race, color, or national origin.
- Restricting the enjoyment of any advantage or privilege enjoyed by others receiving services through the same program.
- Providing services or benefits to an individual that are different, or provided in a different way, from those provided to others.
- Treating an individual differently from others in determining admission, enrollment, eligibility, or other requirement to receive services. (Sampson, 2006, p. 133).

If a person or organization files a complaint with the DHHS Office for Civil Rights, it will be investigated. If the health care organization or office is found guilty, it may lose its right to receive federal funds, such as Medicare, Medicaid, or State Children’s Health Insurance Program (SCHIP) funds (Sampson, 2006, p. 134).

Because of the severe consequences for noncompliance with EO 13166, most organizations have turned to technical communicators, including experts in localization and writing for translation (see Perkins, 2003; Sampson, 2006). Everything from the standards that the organization develops to meet EO 13166 to the actual documentation are developed in conjunction with localization experts, who help ensure that the documents meet the cultural preferences and linguistic needs (in terms of style and content) of the target audience. As a result, technical writers and localization experts have become the lynchpin for the success of these document revisions.

Executive Order 13166 and Its Impact on Translation and Localization

Beyond Translation: The Case for Localization

Executive Order 13166 and Localization

The role of localization has not gone unnoticed by DHHS and other health organizations, such as the AMA, which clearly mandate culturally appropriate translations as part of a multifaceted approach to culturally appropriate patient care. DHHS has instructed its agencies to use focus groups and community research to localize their printed information for target cultures, not just to translate it (DHHS, 2001, p. 19), and to make such localization practices an “integral part of strategic planning at all levels” (p. 25). The call for the localization of materials to comply with EO 13166 standards and to align with a culture’s rhetorical preferences and beliefs about wellness, illness, and the health care system in general has added to the need for technical writers working in this area.

DHHS and other health organizations continue to define ways in which their programs, hospitals, and clinics can become more culturally appropriate. In addition to the lack of available translation or interpretation, lack of localization has led to lawsuits based on alleged noncompliance with EO 13166. Wong (2004) says that the lack of culturally appropriate interpretations and translations has led to “higher rates of malpractice suits related to lack of clear communication regarding diagnosis, prescriptions, and treatment” (p. 4). One high-profile lawsuit was filed in 2002 by the New York Lawyers for Public Interest against two Brooklyn hospitals for failing to provide “appropriate” language assistance for Spanish speakers (Mozes, 2002; Pro-English Advocate, 2002). The University of Utah Health Science Center and the Maine Medical Center have both been sued for noncompliance with EO 13166. The cases were settled, but not without a great deal of negative publicity (Schroeder, 2002, p. 5).

Other localization issues have also arisen. For instance, the South Cove Community Health Center in Boston discovered that measurements had to be localized in instructions for Chinese patients, because “Chinese teaspoons” were much larger than the

American teaspoon (DHHS, 2001, p. 18). What seem like small, insignificant differences can mean life or death for a patient. For this reason, DHHS is promoting the need for “practical, experience-based knowledge about the community being served,” which for the South Cove Community Health Center means ongoing training and certification through the Comprehensive Outreach Education Certificate Program. The sessions in this training include information for practitioners about localizing both oral and written health information; the program has been so successful that it is being replicated throughout Massachusetts (DHHS, 2001, p. 13).

The question at the heart of the lawsuits and problems with instructions and information is “What constitutes an adequate interpretation or translation?” Judgments in noncompliance lawsuits indicate that appropriate steps must be taken to ensure not only that language assistance is available but that it is appropriate for the population it claims to serve. This is not an easy proposition, but it is one that localization experts in the technical communication and health care fields are working to resolve.

The Role of Culture in Health Care

To localize health care information appropriately, technical communicators must be aware of how the patient’s culture can affect his or her perception of health and health care. Culture plays a major role in how patients experience their health care and in what constitutes “appropriate” health care for a specific population (Foucault, 1973, p. 16). Culture determines what constitutes illness and wellness, as well as how these states of being are treated and by whom (Forslund, 1996). Gary Kreps and Elizabeth Kunimoto (1994) say, “No matter how ‘rational’ the goals of a health care campaign are, from family planning to organ donation, cultural roots run deep and will influence audience member interpretation” (p. 97). For instance, Mexican-Americans consider social aspects as well as personal health before they decide to follow the advice of a physician. If the advice seems difficult to follow in light of a person’s social obligations, he or she is unlikely to comply (Browner & Press, 1997, pp. 126–127). A pregnant Mexican-American woman

who is advised to avoid cigarette smoke for the health of her baby might not comply if family members would have to quit smoking to accommodate her needs (Committee on Health, Education, Labor, and Pensions, 2002).

This need for appropriate health care practices has been rolled into the nondiscrimination guidelines set forth by DHHS. The department held a contest in 1998 in which programs and clinics could be nominated for outstanding cultural practices. After the nominations were collected, DHHS published a manual, *Cultural Competence Works* (DHHS, 2001), that summarizes the nominated practices to demonstrate best practices for meeting the needs of a client population and complying with DHHS and federal guidelines. This guide explains how localized information and practicing health care in accordance with patients' cultural beliefs combine to meet EO 13166 guidelines.

Different communities have different standards and beliefs about health practices, and DHHS recommends that practitioners honor both in their actions and printed materials (DHHS, 2001, p. 13). For instance, in some Hispanic cultures, it is believed that when the fontanel ("soft spot" of the baby's skull) is sunken, it can be remedied by holding the baby upside down and giving it a gentle shake. Dominant-culture science maintains that a sunken fontanel is an indication of dehydration. La Clinica del Cariño Family Health center in Hood River, Oregon, resolved this issue by explaining to parents that *in addition* to the soft shake (which is not believed to hurt the infant), they should give the baby more liquids, such as breast milk or formula (DHHS, 2001, p. 13). In this way, cultural beliefs are not threatened but the infant's health is safeguarded according to medical standards. DHHS lauds such compromises, because patients are more satisfied with their health care and more likely to follow instructions if the instructions do not run counter to their beliefs (p. 18).

In addition to specific health practices, the very concepts of "health" and "illness" differ widely among cultures—what one group might consider as well-being, another might consider as illness (Forslund, 1996; Kreps & Kunimoto, 1994). Forslund (p. 48) offers the example of a subtropical culture in which dysentery and malaria are common and, as a result, are not described in terms

of "illness" but rather as normal (though unfortunate) states. Closer to home, many clinics and organizations, such as the Community Health Education Center of the Massachusetts Department of Public Health, have found that what constitutes "domestic violence" can differ among cultures. When the center director met with a focus group of Hispanic, Haitian, African American, and Puerto Rican women, she found that each culture had slightly different beliefs about what could be called "domestic violence." A compromise was developed: Instead of defining domestic violence as verbal or physical abuse, a common definition was adopted that was appropriate for all the client cultures—being afraid of your partner because of his or her actions (DHHS, 2001, p. 14).

Brigitte Jordan (1997) refers to the differences in beliefs about wellness and illness as "cultural authority"—the probability that particular definitions of illness and wellness will be judged to be valid by a particular culture. In the case of domestic violence, women from cultures in which domestic violence was defined more narrowly might not seek treatment if the definition used in the literature did not match their cultural expectations (DHHS, 2001, p. 14).

Culture also affects how patients view health care documentation, which is in increasing demand as a stopgap measure when hospital interpreters are not available (Sampson, 2006, p. 93). It is clear that medical educational materials must be available for many populations, in many languages, and for various degrees of literacy (p. 93). Beyond simply supplying a translation, providers must ensure that the materials match cultural expectations for the medical genre, as well as the writing and graphics style preferred by the culture.

Localization of Text and Graphics for Medical Contexts

When technical communicators and localization experts modify a text for different language versions, they change (localize) the information to suit the target audience, meaning that they use a style, format, graphics, and even colors that meet the needs of the audience (Cronin, 2001; Yunker, 2003). In the United States such localization has not been regulated by any

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industry; however, the EU has stricter guidelines such as making illustrations for electrical plugs and other drawings of non-standard items reflect the appearance of those used for that particular member state (Regulatory Language Requirements and the European Union, 2005).

Text can be localized in many different ways—it might be shortened, expanded, or changed to accommodate the target culture's preferences or to keep costs down. Similarly, graphics might be used instead of a written message (as in the case of a sign), added to support the target audience's understanding of the subject matter, changed to accommodate the target culture's preferences, or removed if they are not needed or to accommodate text expansion.

Text

There are many ways to change text to accommodate a translation. All too often, text is simply cut. Translation is typically billed by the word, which makes reducing the amount of text an attractive option (Baker, 1992; Horton, 1993). In my own study of translated user manuals for household electronic appliances (St. Germaine-Madison, 2006), I noted a tendency to omit words in the Spanish translations of user documents for items such as DVD players and chest freezers. The omissions included condensing the wording in instructions, omitting safety information, and shrinking or omitting graphics.

However, because of the importance of health materials and the legal implications associated with EO 13166, a full localization effort is generally recommended before the text is translated, as opposed to merely cutting it to save money (DHHS, 2001). Almost all the literature from DHHS and state health agencies recommends that publishers of educational materials use focus groups or have representatives from the patient population serve on a board to ensure that patient information—such as consent forms, pamphlets, and signs—mirrors the expectations of the target culture not only in the terminology and translation but also the appropriateness for the culture of content, graphics, and even formatting (see AMA, 2006; DHHS, 2001; Sampson, 2006).

Focus groups and patient input can be very important for the localization of text, because stylistic preferences for text can differ widely across cultures. For example, textual style can differ in the following ways (St. Germaine-Madison, 2009; Tebeaux, 1999):

- **Indirectness.** With regard to preferences in textual communication for health care, a culture can be categorized as high-context or low-context (Hall, 1976). Mexican and other Latin American audiences, as well as many Asian and West African populations, tend to be high-context. Barry Thatcher (1999) explains that the South American communication style, like other high-context styles, is “indirect, subtle, complex, evasive, and situational” (p. 183). On the other hand, low-context communications, such as those preferred in the United States by Anglo-Americans, “tend to be direct and easy to follow, valuing overt guidance in textual processing such as parallelism, organization, and symmetry” (p. 183).
- **Nonlinearity.** Many cultures prefer their textual information to be nonlinear—grouped according to topic rather than chronologically or sequentially. For example, in 2005, CDC focus groups that examined Spanish-speaking preferences for brochures about HPV found a preference for information that was loosely grouped in a question-and-answer format rather than the traditional linear order preferred by English-speaking groups (St. Germaine-Madison, 2009). This is an issue in technical communication, because the field has traditionally valued direct, linear communication (Barnum & Li, 2006; Longo, 1998; Thatcher, 1999; Ulijn & St. Amant, 2000). Latin American and many other high-context cultures prefer nonlinear, topical grouping of information over linear, direct styles (Condon, 1985; Hall, 1976; Ulijn & St. Amant, 2000).
- **Formality.** Many cultures tend to be more formal than Anglo-American culture. For example (speaking in generalities), many Latin American, Asian, and Middle Eastern professional documentation and correspondence tend to have a formal tone. Formality is related to “power

distance,” which Geert Hofstede (2001) defines as “a culture’s willingness to accept differences in social levels” (p. 46). A formal culture might view the role of the physician as high above that of the patient and would expect the language in medical information to reflect that difference through its formality. Medical information that is too informal might not be perceived as credible (St. Germaine-Madison, 2009).

- **Emphasis on relationships.** Another consideration is whether the culture is individual or collective in nature. Many Asian, Latin American, West African, and Middle Eastern cultures are collective, meaning that the needs of family and society are valued above those of the individual (Hofstede, 2001, p. 76). In a collective culture, communication is often “personal but diffuse in statement of purpose” (Tebeaux, 1999, p. 57).

In many cultures, a tone of concern for the patient is an essential part of the physician-patient relationship. This relationship—called *personalismo* or personalism—is very important in Hispanic cultures in general, especially in the context of medicine. Patients seek a personal relationship with their physician, in which they can feel rapport and work in partnership to achieve health (Callister & Birkhead, 2002; Kreps & Kunimoto, 1994).

In some cultures, physicians are not usually consulted unless an illness is untreatable by more traditional means; thus, they are perceived as a very strong source of authority, which contributes to the power distance between physician and patient. Unless the physician makes an effort to work with the patient on a personal level, the power distance is reinforced and treatment may not be effective (Committee on Health, Education, Labor, and Pensions, 2002; Kreps & Kunimoto, 1994). The tone of a medical document can go far to help establish a relationship of trust, which is particularly important when the physician or practitioner cannot communicate directly with the patient because of a language barrier.

- **Tone of uncertainty.** Cultures also differ in how they view the future (Kenna, 1994). The issue of

uncertainty is related to the cultural dimension of uncertainty avoidance, which Hofstede (2001) defines as “the extent to which the members of a culture feel threatened by uncertain or ambiguous situations” (p. 167). Cultures that display high uncertainty avoidance (such as the Mexican culture) may prefer more information in their medical documents—such as a more detailed explanation of the risks involved in a procedure or disease—because they have a lower tolerance for ambiguity (St. Germaine-Madison, 2009).

Graphics

In addition to textual style, the graphics and visual elements of a text or sign are important. Graphics in translations and to assist in wayfinding, as well as the use of signs and symbols to help LEP patients, have been in high demand for hospitals and clinics because they are (in theory) understood by speakers of most languages and they reduce the costs associated with translation and localization (Sampson, 2006, p. 93). Technical communication scholars, most notably Horton (1993), have lauded the use of simple graphics as a key aspect of localizing a document, because they can cover for a problematic or faulty translation, or make a translation more useful to a wider audience (p. 683). Graphics are a key component of most translations, regardless of audience preferences.

Wayfinding Symbols

The need for wayfinding symbols has become so pressing for hospitals and clinics that *Hablamos Juntos*, along with other localization organizations, are working on the growth and development of a set of universal health care symbols (www.hablamosjuntos.org). Globally, the use of symbols and wayfinding icons is also a concern. The European Committee for Standardization (CEN) is working on a set of symbols to be used in documentation and signage in European Union countries. Until a truly universal system is adopted, some organizations, such as the U.S. Department of Transportation and *Hablamos Juntos*, have developed systems of signs that are available free of charge, thanks to a grant from the Robert Wood Johnson Foundation (Sampson, 2006, pp. 94–98). For examples, see figure 1.

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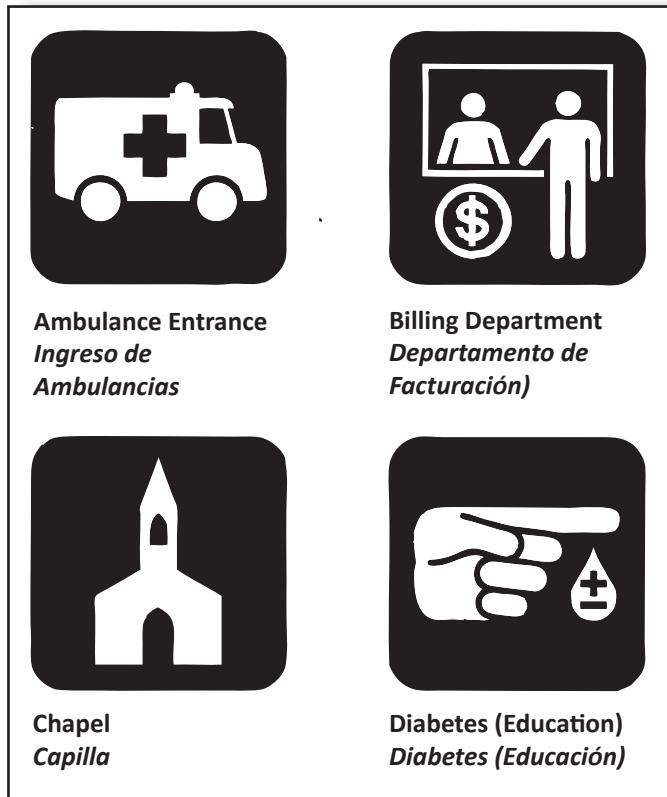


Figure 1: Examples of wayfinding symbols developed by Hablamos Juntos (www.hablamosjuntos.org).

In addition to wayfinding symbols, technical communicators and localization experts must consider the use of graphics in other types of health information, such as brochures and information sheets. The kinds of graphics (see Forslund, 1996; Quiye, 2000), their placement, the use of color, and the subject matter depicted are all subject to scrutiny to determine whether the original graphics need to be revised for users from another cultural or linguistic group (see Horton, 1993; Kostelnick, 1995).

Graphical Preferences

Preferences for certain types of graphics or certain subject matter can vary widely by culture. For example, according to information scholars have gathered about Mexican and Mexican-American cultures in general, in the context of medical information, women of Mexican descent often prefer photographs of people over line drawings; in social contexts, they

prefer photographs of people of similar heritage over photographs of individuals (Forslund, 1996; Ogilvy Public Relations Worldwide, 2005). Forslund credits the visual tradition of some of the Mexican literary genres for this preference, but it may also have its roots in the holistic nature of traditional Mexican views of medicine and wellness (Callister & Birkhead, 2002; Kreps & Kunimoto, 1994). Many Mexican and Mexican-American patients believe that no illness or condition can be treated without considering the needs of the patient and the patient's health as a whole (Callister & Birkhead, 2002). This may contribute to their desire to see photographs of actual people undergoing treatments rather than line drawings showing the affected body parts, which are preferred by dominant-culture American society (Forslund, 1996).

The Use of Color

The colors used in the information affect how patients perceive it. According to Horton (1993), color is usually also a consideration in the localization of graphics. For example, organizations interested in localizing for a Hispanic audience should use more color and more vibrant color in the design of materials (Yunker, 2003). In fact, localization experts like Yunker say that a failure to use color in the design can actually jeopardize the credibility of information products in the eyes of some users. In the CDC campaign to inform the public about HPV, color was found to play a large part in Spanish-speaking users' preferences in educational materials (St. Germaine-Madison, 2009). Less is known about the role of color in health care documentation for other cultures, but many cultures probably have their own preferences; therefore, it is important to localize information for color preferences as well as graphical preferences.

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Technical communicators and localization experts are on the front lines of the movement to make health care information accessible to people from many different cultures. As a result of EO 13166 and other developments—such as passage of health insurance

reform legislation and changes to the Medicare system that involve greater choice for participants—organizations, hospitals, and other institutions are clamoring for more and better translated and localized materials for their clients (Scalia, 2007, p. iii). As our concepts of “available” and “fair access” continue to evolve in the national debate on health care, technical writers will continue to shape the practices for writing and localizing health care information.

The ramifications of EO 13166 are still being felt nationwide. Although the order was implemented 10 years ago, it is still being integrated into hospitals and clinics because of the sheer magnitude of the materials and the cost of localizing and translating them (Barrett et al., 2008). This situation has left medical writers and localization specialists scrambling to provide “appropriate” translation and localization services in the health care setting, particularly in states with high concentrations of non-native speakers. In Texas, for instance, 10% of residents claim Spanish as their first or only language, according to the 2000 Census. That means that 6.7 million people in Texas alone have a potential need for medical interpreters or translations of health care documentation such as brochures about medical conditions or patient information fact sheets.

The shortage of qualified medical interpreters means that all “vital” medical documentation must be translated; this requirement has placed technical communicators and localization experts on the front lines of the effort to make health care documentation accessible to the LEP population. As noted earlier, the question often arises of what constitutes vital information. DHHS (2001) defines it as patient consent forms and instructions for care, but other entities, such as the National Health Law Program (NHELP), claim that these documents are not enough (Barrett et al., 2008). According to a recent study conducted by the National Senior Citizens Law Center (NSCLC), even when appropriate medical interpreters were available, Spanish-speakers were able to access an interpreter only 71% of the time, and the success rate of other language groups was much lower (e.g., 41% of the time for Mandarin Chinese speakers) (Scalia, 2007, p. iv).

As a result of the shortage of trained and appropriate interpreters, many organizations, such as the NSCLC and the National Council on Interpreting

in Health Care, recommend that translated printed materials be made available even for clients who have had the opportunity to speak with an interpreter (Downing & Roat, 2002; Scalia, 2007, p. iv). While medical interpretation may be the preferred format, translated pamphlets are necessary to fulfill the requirements of the law, to substitute for medical interpreters, and as a reference or reading aid for patients (Scalia, 2007, p. iv). In many medical care situations, translated materials are the only source of language-appropriate health information for LEP patients. This means that agencies, hospitals, and clinics are mandating the translation of a wide array of patient information materials, and technical communicators have been largely responsible for localizing these materials and preparing them for translation.

Technical communicators and localization experts are also in great demand to design graphics for wayfinding materials, such as signs, and for printed health care information, as well as designing the layout of the information for the target audience (www.hablamosjuntos.org). The appropriate use of signs and graphics may reduce the costs associated with medical translation and interpretation by augmenting the information or by using universal symbols that are recognized by LEP patients from many language groups.

Because of the great need for translated and localized materials to help hospitals, clinics, and other organizations comply with the nondiscrimination tenets of EO 13166, technical communicators working on the localization of health care materials have a large role to play in ensuring that LEP patients receive adequate health care according to the law. The global pressures of immigration continue to influence regulatory legislation and localization efforts in the EU and other developed nations. The need for materials positions technical communicators at the forefront of the movement for culturally appropriate health care information.

Conclusion: A Summary of Best Practices

Technical communicators and localization experts working in health care settings worldwide need a set of principles or best practices to guide their attempts to

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serve their local populations. However, complicating the issue, each country or region and even each organization seems to have its own idea of what constitutes a best practice for localizing information for patient groups in its service area. For example, the European Union specifies which documents must be localized and translated with a set of guidelines, while the United States leaves the decision and guidelines up to individual organizations. However, a few common strategies have emerged in the discussion.

Strategy 1: Make the textual style of the information match that of the culture's expectations. Research the culture using Geert Hofstede's (2001) and Edward T. Hall's (1976) cultural dimensions, as well as the preferred style of writing for the target culture. Information on the ways in which cultures differ is available and, as the work of Tebeaux (1999) and others suggests, highly applicable to practical writing strategies for global contexts.

Strategy 2: Research the preferences for graphics and color in medical documents for the target culture and use the preferred style. In some countries—such as China, Mexico, and the United States—specific information is available regarding the preferred format of graphics in various contexts. However, on-the-ground research is needed for many countries. Focus groups and subject matter experts can help.

Strategy 3: Use widely recognized symbols. When information must be localized for a variety of cultures and language groups, as in signs, use widely recognized symbols such as those developed by Hablamos Juntos and the Department of Transportation (Hablamos Juntos, 2005; Sampson, 2006, pp. 94–98). These free symbols appeal to a wide variety of language groups.

Strategy 4: Use focus groups. Many organizations agree that focus groups are the best, most cost-efficient way to localize health care information for a particular patient population. The nature and scope of the focus group will vary depending on how widely distributed the information will be and how many target cultures the writer is hoping to reach. Many organizations, such as the Community Health Education Center of the Massachusetts Department of Public Health, conduct small, locally based focus groups for information from

the hospital or clinic, while larger organizations, such as CDC, conduct focus groups across the country to ensure that they are capturing a wide array of opinions for information that will be published nationally (DHHS, 2001, p. 14; Ogilvy, 2005). Focus groups can provide valuable information about preferences for text and graphics when the information is not available through research.

Strategy 5: Consider the content, not just the style and format. Recognize that the localization of textual health care information is a sensitive undertaking, with much at stake for both the patient and the hospitals and clinics involved. Localizing information goes beyond a simple consideration of language, style, and graphics; the information must match the culture's expectations for topics that can be covered and its perceptions about health and health care in general (Callister & Birkhead, 2002; Forslund, 1996; Kreps & Kunimoto, 1994).

It is imperative to ensure that medical information is not just translated correctly but is also culturally appropriate. The consequences for not connecting with an LEP population are profound—from expensive and time-consuming lawsuits for the hospital or clinic to patient injury and even death. With time and research, technical communicators, through their efforts to improve the quality of translation and localization efforts, are poised to have a positive impact on the health and welfare of millions of LEP patients in health care settings.

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Writing for the Participants of International Clinical Trials: Law, Ethics, and Culture

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Abstract

Purpose: Regulatory authorities and health care practitioners participating in international clinical trials are often discussed in the technical writing literature. However, the most vulnerable audience—the participants—is left out of the conversation. The purpose of this article is to examine the influence of legal and cultural contexts on participant-directed informed consent documentation. Such examination will help technical communicators make informed consent documentation more user-centered.

Method: Using excerpts from informed consents that I translated into Russian, examples from my six years as a localization specialist, and an overview of contradictory U.S., Russian, and international laws, I analyze the legal, ethical, and cultural considerations for informed consent documentation in international clinical trials.

Results: The results of this analysis show that international regulations often differ from U.S. and Russian laws. In addition, the culture and way of life in the country where a clinical trial originates (e.g., the United States) might differ from those in the country where the trials are conducted (e.g., Russia). These differences influence the comprehension of information in informed consent documentation and a patient's decision to take part in a clinical trial. Technical communicators are often responsible for the difficult task of reconciling the contradictory issues raised in international clinical trial legislation, differences in legal systems of particular countries, and tensions between law and culture.

Conclusion: I offer strategies that technical communicators can adapt to work in the best interests of their audience and to present user-centered information in informed consent documentation.

Keywords: international clinical trial, informed consent, user-centered design, audience, international regulations, law and culture

Practitioner's Takeaway

- It is important to determine early in the project's lifecycle whether an informed consent document will be used abroad. If the document is intended for translation, localization specialists can help analyze your audience and can become a reference source (e.g., on international laws).
- It is essential to explain or provide references for all concepts and terms (even the term “clinical trial”) and to individualize the content and design of each informed consent document (e.g., by providing space for additional information or developing comprehension checks).
- It is of paramount importance to use consistent, unambiguous terminology and to avoid the connotation of “treatment.”

Introduction: Culture Meets Law

Bonk (1998) states that technical writers who design documentation for regulatory agencies and health care practitioners in the global pharmaceutical industry experience legal and ethical pressures, as they can be responsible for social benefits and serious harm. These pressures result partially from the requirement to have a working knowledge of both U.S. and international law. In creating informed consent documents for international clinical trials, technical writers must address authorities from multiple countries and coordinate their legal requirements so the study can be authorized in the country where the trials are conducted and the results will be accepted in the country where the medication was invented.

However, legal pressures and the strains of the market often cause technical writers to overlook the audience whose safety should be the primary concern: the participants in clinical trials. Indeed, job descriptions on various Web sites for technical writers mention assisting “with the development of the informed consent … in conjunction with the clinical trial team”; writing “investigational drug brochures” (www.greenkeyllc.com); and preparing “Informed Consent Forms [and] patient narratives” (www.inventivclinical.com). Technical writers are required to have a “solid understanding and experience with application of GCP [Good Clinical Practices]” (Green Key Resources). They need “knowledge of FDA [U.S. Food and Drug Administration] regulatory requirements and ICH [International Conference on Harmonization] guidelines” (inVentive Clinical) and experience with “AMA [American Medical Association] writing guidelines” to help “change the lives of people around the world” (Baxter International Inc.).

None of the job ads mention anything about understanding the needs of study participants; this omission can result in documents that show no concern for their audience. The problem becomes especially obvious when informed consent documents are offered to patients who are not fully aware of their illness. Such situations are not uncommon in cultures in which families play an active role in directing health care for their members. While working as a medical interpreter in a Midwestern hospital, I witnessed such a situation. When I interpreted the results of medical tests to an

elderly Russian-speaking patient in the Emergency Room, his bilingual children and wife broke down in tears and tried to convince me to let their father/husband “die in peace.” The family had been aware of the man’s disease for several years but had never told him about the full extent of it. In Russia, this was possible because of the leniency of the law in such dramatic and emotional situations, where not telling the patient is considered ethical and kind. In this situation, when the doctor and I tried to explain that it was the patient’s right to know about his condition, the family pointed out the cruelty of the law. However, when the doctor mentioned that there was an experimental medication for the condition and that the patient could take part in the study of this medication, the family stopped interfering with our efforts.

The doctor offered to provide more information about the study to the patient and brought the informed consent brochure. The document fulfilled the right of the patient, determined by U.S. law, to receive information. In this case, it provided facts about an experimental medication for an incurable disease to a patient who did not know that he had this disease in the first place. Technical writers need to be aware of this context and focus on the various potential audiences to shed light on how legal requirements for international clinical trials intertwine with participants’ determination to put themselves at risk of adverse effects for a chance to regain their health or for the greater good. Since such vital decisions are often nested in the cultural background of participants, technical writers need to follow the suggestion of Kim, Young, Neimeyer, Baker, and Barfield (2008) to study “cultural differences in decision making” and “notions of patient rights and agency” (p. 352).

To address this problem, I begin with a brief overview of the informed consent process in clinical trials and the concerns regarding the documents used in the process. I explain why offshoring clinical trials (to the Russian Federation in particular) is becoming increasingly popular. With an increase in the number of offshored clinical trials comes an increase in the clinical trial documents that must be translated into foreign languages. Meanwhile, some factors that encourage offshoring (and thus the growth of the clinical trial translation industry) can be detrimental to the rights of the participants. Awareness of these contradictions is paramount for

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technical writers, as it gives them the power to withstand legal and ethical pressures and to direct their efforts to protecting the best interests of the participants.

I use the United States and Russia as examples to look at current legal issues in international clinical trials and at how national and international law, ethics, culture, and traditions clash when they interact in the creation of one of the most important documents in clinical trials, the informed consent brochure. Using examples from actual informed consent documents I have translated from English into Russian, I make recommendations that will help technical writers withstand legal pressures, acquire more knowledge about the participants of clinical trials, and create informed consent documents that take the interests of participants into account.

Informed Consent Documentation and the Interests of Participants

According to the FDA, a clinical trial is a research study that is “used to determine whether new drugs or treatments are both safe and effective”; it is “the fastest and safest way to find treatments that work in people” (Clinical Trial entry in the <http://www.clinicaltrials.gov> glossary). The full definition emphasizes that the trials start with small groups of people and expand to very large groups to allow for sufficient comparative analysis. It is the primary task of legal regulations to ensure that the studies are safe and fair to these groups.

One prerequisite for safety and fairness of a clinical trial is the participants’ knowledge of what the trial entails. The most common way to convey such information to patients is through an informed consent brochure, which describes the goal, duration, and required procedures of the trial; provides contact information for study investigators; and explains the rights of participants and the risks/benefits of participation. When participants sign an informed consent form, they confirm that they have received sufficient information about the trial and state their wish to be part of it. Because the informed consent form is not a contract, participants can decide to withdraw at any time (<http://www.clinicaltrials.gov>).

Clinical trials entail a “stronger professional duty to communicate information about risks in the context of

research than in the course of normal clinical care” (Hall, 2000, p. 291). Since the task of a trial is to determine the safety and efficacy of medication, the probability exists that an experimental drug could have no benefit for the health of a patient or could even cause harm (e.g., incorrect dosage, unforeseen side effects). In addition, many trials are placebo-controlled, which means that a patient might unknowingly be one of the participants who receive a sugar pill. All this information must be conveyed during the informed consent procedure, and informational brochures are a primary source of knowledge. Clinical trials encourage discussion between doctors and patients; the consent forms protect patient autonomy and well-being. Ideally, the primary purpose of informed consent documentation is “to promote the goals of informed consent, rather than merely serve as documentation and thus liability protection” (Berg, Appelbaum, Lidz, & Parker, 2001, p. 190).

However, both scholars and practitioners have criticized informed consent documents in the United States for a number of reasons:

- Informed consent documents are often equated with informed consent procedures. Doctors rely on these documents as the only source of patient education and view the signature as a sign that the patient is well-informed about all the implications of the study. “With informed consent having its roots in the law, it is not surprising that the idea was implemented through legalistic approaches,” and the pursuit of the autonomy and well-being of the patient has “achieved an ethics in practice that revolves around the signing and filing of pieces of paper” (Smith, 1996, pp. 179, 184).
- These documents do not “appropriately inform and empower the participant, because the information in the consent document increasingly serves institutional rather than participant needs. ... Consent forms have been hijacked as ‘disclosure documents’ for the risk management purposes of research organizations” (Federman, Hannam, & Lyman Rodriguez, 2003, p. 93).
- Informed consent documents fail to prevent “therapeutic misconception,” a situation in which participants of clinical trials do not differentiate between research and treatment and, as a result, overestimate the nature and likelihood of study benefits (Appelbaum, 2002; Horng & Grady, 2003;

Moreno, 2003). King et al. (2005) analyzed consent forms from early-phase trials to examine how “consent form language might promote or reduce the therapeutic misconception” and concluded that consent forms are often vague, inconsistent and overstated, “which may promote confusion about what subjects can expect from receiving the experimental intervention” (p. 5).

- They do not provide space for patient questions, doctor-patient discussion, and additional information disclosed as a result of these interactions. At the same time, they can be so long that they lead to information overload.
- They are used as a formality. Patients should be able to take these forms home to carefully read them and discuss them with their families. However, the forms are often handed out during doctor-patient discussions, allowing patients only a few minutes to look them over (Morrow, Gootnick, & Schmale, 1978).
- They display a disregard for the linguistically and culturally defined understanding of information. A patient might have a different concept of a certain disease than the doctor has (e.g., a patient may believe that she does not have cancer because cancer patients are usually sick and lose weight, while the doctor has medical proof of the diagnosis) or might have no conceptual base to understand medical concepts (Faden & Beauchamp, 1986).

Awareness of these factors can help technical writers create participant-centered documents and assist them in their ethical task of protecting the interests of participants of clinical trials. These criticisms also emphasize the need for improvement in the design of informed consent documents. When such documents are translated into other languages, the situation becomes even more complicated, as the clinical trial now involves several cultures. Over the past six years, I worked on a large number of informed consent documents for clinical trials that started in the United States and continued in other countries. In these trials, informed consent documents written by American technical writers were translated and used abroad, thus transferring all the existing problems of the documents into an international arena.

Offshoring Clinical Trials: Benefits and Contradictions

The number of clinical trial documents translated from American English into foreign languages is increasing every year; in the past decade, offshoring has become a trend among U.S. pharmaceutical companies. The number of investigators who base their studies on FDA regulations and work outside the United States has grown by 15% annually, while the number working in the United States has decreased by 5.5% each year (Getz, 2007). Glickman et al. (2009) reviewed trial recruitment for the 20 largest U.S.-based pharmaceutical companies and determined that the majority of study sites were outside the United States, and about one-third of all the trials did not even start in this country but was rather conducted only abroad. Many of the trials they examined were conducted in the rapidly evolving countries of Eastern Europe and the Russian Federation.

Economic Reasons for Offshoring

The reasons for offshoring clinical trials are many, but cost savings is the most obvious. One case report showed, for example, that a first-rate academic medical center in India charges \$1,500 to \$2,000 per patient case report, whereas a second-tier center in the United States would charge 10 times more (Garnier, 2008). In addition, involving international participants allows companies to shorten the trial time.

Since trial sites in North America usually have multiple ongoing studies, the competition for participants is fierce; at the same time, once the experimental drug is patented, its producer has exclusive rights for only a certain period. These so-called “time costs” account for approximately half the price of getting a new drug approved in the United States (Lustgarten, 2005). According to International Conference on Harmonization Good Clinical Practice (ICH-GCP) standards, which are followed by the FDA, new participants can be added later in the study; by recruiting participants in developing countries, sponsors and investigators can speed up the trials.

Furthermore, owing to the large number of ongoing studies and the increase in enrollment criteria, it has become very hard in the United States to recruit

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participants for clinical studies, and fewer participants finish the trials than in other countries (Malakoff, 2008). Offering payment to participants of clinical trials is equally unacceptable throughout the world; still, it is easier to recruit patients in developing countries (Lustgarten, 2005).

Medical and Legal Reasons for Offshoring

Patients in developing countries typically are “naïve.” Previous treatment may confound the results of clinical studies, but naïve patients have not received care for their diseases and conditions (Mitchell, 2008). In addition, the large pool of recruitable subjects in many developing countries offers many genome variations and allows the investigators to study different ethnic responses to the experimental drugs. The FDA urges that clinical studies be conducted on ethnically diverse populations, since such testing can provide an understanding of how medications affect various groups. In fact, if a trial is conducted within a single ethnic group, the FDA requires an additional study (Mitchell, 2008). Conducting studies in several countries simultaneously helps fulfill this FDA requirement.

Because of the boom in offshore clinical trials, international health organizations have had to develop standardized regulations and guidelines. Bailey, Cruickshank, and Sharma (2006) contend that these regulations and guidelines, together with stronger intellectual property protection in developing countries, are contributing to the globalization of clinical research. However, clinical trials in developing countries are still a rather new concept. These countries have underdeveloped legal regulations for trials, a situation that attracts pharmaceutical companies that see an opportunity to avoid extra steps in bringing new medications to market. In addition, pharmaceutical companies strive to enter new markets that are very large and rapidly growing, such as those in India, China, and Russia. Thus, many companies are testing not only drugs for worldwide use but also region-specific medications.

Offshoring to Russia

Although the clinical trial market is growing in China and India, Russia is still one of the world leaders in patient enrollment (Business Insights, 2009). According

to a comprehensive market report published in June 2009 by Synergy Research Group (SynRG), a Russian-based clinical research organization, even in the current global economic crisis the market for clinical trials in Russia is growing (Ward, 2009). A Russian online newspaper that provides legal information and advice—Moscow Pharmacies (Московские аптеки)—reported that between 2000 and 2005, 2,015 clinical studies were approved in Russia, 50% of which were international (i.e., sponsored by non-Russian companies). Most of the international studies tested original, new medications, while the Russian studies evaluated the bioequivalence of generic drugs.

In the past decade, the Russian Federation has become one of the primary locations for U.S. medical testing. U.S. pharmaceutical companies are drawn to Russia for clinical trials because of the country's diverse population, still-developing legal system, and overall lack of domestically produced medications. Russia is a large market for medications, and Russian law prohibits importing medications without testing them in the country. In addition, Russia has a centralized hospital system, which makes the process of recruiting participants relatively cheap and fast. The medical system is not in good shape and average incomes are not high, so trials often are not a choice but a necessity for patients with few treatment alternatives. Moreover, participants are generally “naïve,” and their diseases are often advanced; the combination of these two factors provides a perfect baseline for scientific study. And finally, doctors who become investigators in clinical trials can make 10 times their usual salary by recruiting patients (Lustgarten, 2005).

As a world leader in patient enrollment in clinical trials, Russia can serve as a comprehensive example for exploring the characteristics of informed consent documentation in the international arena. Anecdotal evidence suggests that most of this documentation is written by technical writers in the United States and then translated into Russian. By understanding the legal and medical systems and the economic situation in Russia, technical writers can better anticipate the informational needs of the participants of clinical trials and thus complete their tasks more effectively.

The United States and Russia: The Impact of Legal and Cultural Differences on Informed Consent Documents

The benefits of offshoring clinical trials are evident, but critics wonder if, in the rush for savings, pharmaceutical companies fail to consider the ethical pitfalls (e.g., Normile, 2008). Bioethicists point out that the rights of participants in international studies are often trampled, because people in other countries respond differently to informed consent procedures and documents (Moodley, Pather, & Myer, 2005). In addition, some guidelines in the international standardization regulations leave much open to interpretation, which allows the companies to take advantage of the participants. For example, the ICH-GCP requirement for sponsors to make sure that clinical trials are “adequately monitored” can only be effective if it is effectively implemented (Glickman et al., 2009). Some U.S. laws governing clinical trials contradict international laws; this affects clinical studies in Russia, as Russia is still developing its own code for medical research and, in the meantime, abides by international standards. Moreover, both the U.S. and international legal systems can be in conflict with the contexts of people’s lives and their culturally determined mindsets. The following examples illustrate how legal differences and cultural contradictions affect informed consent documentation to the detriment of participants of clinical trials.

International Legal Debate: The Use of Placebo

International regulation and standardization attempts have often run into trouble because new directives are in conflict with the laws of a specific country. For example, regulations of the U.S.-based FDA contradict some of the international guidelines of the World Medical Association (WMA). The Declaration of Helsinki—the best-known policy statement of WMA regarding clinical trials—was amended in 2000–2002 on three major issues: limitation of placebo use, stronger requirement for trial sponsors to provide medical care to participants after the study is finished, and public registration of clinical trials before recruiting the first subject (Normile & Marshall, 2008). In October 2008, the FDA—which previously

referenced the Helsinki Declaration as the basis for clinical trial regulation—amended its requirements. To avoid inconsistency, the FDA now accepts results of clinical trials from overseas if they do not comply with the Helsinki Declaration but rather with the ICH-GCP (Fiscus, 2009).

As a result, critics say that the FDA requirements are now less demanding in the protection of human rights of participants. According to Stuart Rennie, a bioethicist at the University of North Carolina, this decision by the FDA does not stand up to scrutiny since it “would seem to encourage pharmaceutical companies to cut ethical corners when working abroad. … The GCP is more open to the use of placebos and does not mention conflicts of interest, the need to publish results, or post-trial access to care” (Normile & Marshall, 2008, p. 516).

Many U.S. informed consent documents are created and sent to foreign countries without addressing this conflict. In my translation work with informed consent documents, I often encountered sentences such as these two [emphasis added]: “There is an agreement between health care experts and regulatory authorities that in order to obtain reliable and valid results of medication efficacy *placebo-controlled studies are necessary*” and “Regulatory authorities such as the FDA (Food and Drug Administration) and the EMEA (European Medicine Evaluation Agency) can only grant approval for medications if their efficacy has been proven to be unambiguous, which means *superior to placebo*.”

Such statements can be hard to decipher for an English-speaking patient because of their jargon, and they could become utterly confusing in an international setting, as well as provide grounds for litigation. The two sentences assume that all health care experts and all regulatory authorities agree on using a placebo; they imply that the only way to prove unambiguous efficacy of a drug is to compare it with placebos. However, many experts and regulatory agencies (e.g., WMA) consider the use of a placebo necessary only if no known medication exists for a particular disease. Comparing the experimental medication with an existing drug can provide conclusive results. Thus, treating participants with placebos in a blind study (a study in which participants do not know whether they are taking a placebo, an experimental drug, or a patented drug) when they could be treated with a patented medication

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can be unjustified and extremely detrimental to their health. The conflict about the use of placebos is just one of many examples of legal tensions in multicountry trials.

Patients' Access to Clinical Trial Regulations

While the FDA relies on GCP standards for questions about clinical trials, in Russia the situation is not so transparent. A new law—*Надлежащая клиническая практика* (Appropriate Clinical Practice)—was passed in 2005, but it merely recommends rather than prescribes procedures for clinical trials.

Another law—*О лекарственных средствах* (About Pharmaceutical Products)—was passed in 1998 to regulate everything from clinical trials to wholesale of medications; since then, it has been amended five times. An industry standard—OCT 42-511-99: *Правила проведения качественных клинических исследований в Российской Федерации* (Rules for Conducting Quality Clinical Studies in the Russian Federation)—was passed in 1998.

The list of laws, decrees, and standards does not stop here. A model law—*О защите прав и достоинства человека в биомедицинских исследованиях в государствах—участниках СНГ* (Protection of Human Rights and Dignity in Biomedical Studies in Countries—Members of the Commonwealth of Independent States, 2005)—regulates a state's guarantee to protect the rights, dignity, autonomy, and integrity of an individual in biomedical testing. The opening paragraph of this law states that the statute is based on the provisions of the state constitution, as well as the principles of the Nuremberg Code, the WMA's International Code of Medical Ethics, the Helsinki Declaration, the Convention on Human Rights and Biomedicine of the Council of Europe, the International Ethical Guidelines for Biomedical Research Involving Human Subjects of the Council for International Organizations of Medical Sciences (CIOMS), the GCP provisions of the World Health Organization (WHO), and WHO recommendations concerning the ethics of clinical trials. It is a praiseworthy attempt to combine all these international standards for clinical trials, but it fails to address the contradictions among the regulations. These contradictions make it extremely hard for participants to find information about clinical trials, especially in a

country such as Russia, where Internet access is still a luxury in many smaller towns.

Problems with Terminology

Since standardization of clinical trial laws is still problematic, it is no surprise that differences exist between the United States and Russia in terminology, oversight, and understanding of the procedures. For example, in the United States you can only register a “pharmaceutical product,” while in Russia you can register a substance. In clinical trials in Russia, for example, the acetaminophen in TYLENOL® Arthritis Pain or the paracetamol in TYLENOL® Extended Relief could be the study drug, while in the United States it would have to be the specific form of acetaminophen used in children's TYLENOL® Suspension Liquid or the TYLENOL® Arthritis Pain 150 mg caplet. Furthermore, differences exist in exclusion criteria between the two countries: In Russia, underage orphans, pregnant women,¹ military personnel, and prisoners may not take part in clinical studies. In the United States, the participation of these groups is strictly regulated but permitted. Even the terms “clinical trial” and “informed consent” may cause difficulties. The concepts behind the two terms are new to Russian patients, who often have only a vague idea about them or completely misunderstand what they entail.

Agency and Privacy of the Patients

The legal regulations of any country are paramount; by complying with them, technical writers can attempt to ensure the ethical treatment of the participants of clinical studies. However, experiences in my career as a translator and interpreter, along with recent publications in the United States and Russia, indicate that following laws sometimes creates an ethical question in itself, because the traditions and mindsets of the people involved in trials often contradict the legal provisions. If law becomes the sole foundation for information in informed consent, patients are often unable to concentrate on the information, to make an informed decision, and can sometimes even refuse to participate.

In Russia, families of patients take an active role in health care: They go with the patients to doctors' visits and research information on the condition. When a serious illness or terminal condition is discovered,

doctors often consult first with the family to discuss the best way to inform the patient. The doctor and family may decide not to inform the patient at all. The usual rationale in such a decision is that if there is no hope for treatment and recovery, at least the person can die in peace. My family held on to this rationale when they decided not to inform my grandmother about the terminal nature of her illness.

However, the law in the United States and Russia dictates that fully conscious patients who do not suffer from a mental illness need to make their own informed decision about participating in clinical trials and must independently sign an informed consent form. Informed consent documents often start with study protocol titles (e.g., A Randomized, Placebo-Controlled, Phase 1/2 Study of X in Subjects With Metastatic Colorectal Cancer) and introductory sentences such as “You are being invited to participate in a research study because you have a colorectal tumor.” For a patient, the news of an illness can come from an informed consent brochure, even if the family is there to soften it.

Law and Life Context

In countries like Russia, where a large part of the population is at the poverty level, people may overlook the dangers of a clinical trial if there is no other option for treatment (Fiscus, 2009). Russia's best doctors are migrating to the clinical trial industry because it is so lucrative; at the same time, many people cannot afford drugs in what is considered a “free” medical system. For many patients, taking part in trials is the only way to have access to treatment and medications. Lustgarten describes the case of a former metal worker and late-stage cancer patient, Ershov, for whom participation in a clinical trial offered the only chance to “get \$800 worth of drugs a month at no cost, reliable access to doctors, and at least the hope of a cure” (Lustgarten, 2005, p. 66). The average monthly wage in Russia in 2008 was \$694.3 (World Bank, 2009); the average monthly retirement income in 2004 was \$66.4 (Ohtsu & Tabata, 2005).

If patients are aware of their condition but cannot afford treatment and are advised to take part in a clinical trial, how much time are they likely to spend reading the typical informed consent booklet: 15–20 single-spaced pages replete with medical terms? This problem is common in the United States as well, since a large

percentage of the population does not have sufficient health insurance or has no health insurance at all.

Doctor-Patient Relationship

Even though in the United States patients may trust their doctors, they are encouraged to ask questions. In Russia, patients usually place great trust in their medical providers; if the study doctor has a positive attitude about a clinical trial, the patient is likely to skim through the informed consent or hardly read it at all. In the Ershov case, the study doctor confided that 90% of his patients sign the form right away. Ershov himself said, “They told me the treatment was safe. I trust my doctor completely” (Lustgarten, 2005, p. 67).

According to a recent study published in Moscow Pharmacies, because of their blind trust in doctors and because they do not bother to read the informed consent documents, patients taking part in clinical studies do not know how to store the medication (99%), are not aware of the need to discontinue participation in any other study (86%), do not realize that the study may be discontinued before the date discussed (63%), and do not know that they should tell their family doctor they are participating in a study (53%).

Benefits for an Individual Versus Benefits for Society

Looking at Ershov's interview as described by Lustgarten, we need to focus on two words: “treatment” and “cure.” Therapeutic misconception is not confined to the United States; it is even more common in clinical trials in Russia. Since these trials are still a rather new concept in Russia, many participants do not have a clear understanding of them. For some, they are the only hope for a cure. For others, they seem like experiments on human guinea pigs. The latter opinion results from lack or misinterpretation of information and from media coverage of clinical trial “busts” (e.g., testing vaccines on infants in Volgograd—a trial in which parents did not have clear information).

Informed consent documents do not offer sufficient help in this situation. The following two sentences illustrate how vaguely the potential social and personal benefits are sometimes described in informed consent documents [emphasis added]: *“It is hoped that the information learned from this study will increase the knowledge and understanding of colorectal tumor”*

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and “X seems to activate changes in tumor cells that cause them to either stop growing or die, with few effects on normal cells.”

King et al. (2005) explores the language used in informed consent documents to describe benefits of clinical trials to participants and come to the following conclusion:

Because benefits to society—described in federal research regulations as contributions to generalizable knowledge—can only be realized in the future, they should be readily distinguishable from benefits to subjects. However, when consent forms describe the ultimate aim of the line of research or the mechanism of action of the experimental intervention without differentiating these from potential benefits for subjects in the current trial, it may be difficult to distinguish between benefits to subjects and benefits to society (p. 2).

All these factors have important implications for how technical writers create informed consent documentation, since they influence the way technical writers design the documentation and what information they choose to include. These factors also present additional challenges for achieving one of the primary goals in technical communication: making information clear and unambiguous for readers.

Implications for Technical Writers

Differences in clinical trial laws, access to regulations, terminology, treatment of agency/privacy of patients, life context, culturally determined doctor-patient relationships, and attitudes toward clinical trials and their benefits in the United States and Russia affect informed consent documentation to the detriment of participants of clinical trials. However, technical writers have long emphasized the need to be “user advocates” and the importance of “user-centered design” (see, for example, Blakeslee, 2010; Faber & Johnson-Eilola, 2002; Johnson, 1998; Johnson-Eilola, 1996).

In health care communication, technical writers are taking a central role, in which their “responsibilities

for the persuasiveness of documents and compliance with evolving regulations have increased dramatically” (Tomlin, 2008, p. 289). In the context of international clinical trials—in which the demands of law and the needs of patients often overlap but more frequently conflict—technical writers should challenge themselves to develop and adopt strategies that could help them cope with the ongoing challenges and make their efforts more effective. The following seven courses of action are based on the contradictions discussed in the previous section.

1. Researching the laws. To best serve the interests of participants, technical writers need to stay up-to-date on clinical trial legislation in the United States and on international research regulations. A list of Web sites that could be a start for investigating laws in the United States and Russia, as well as international codes, is provided at the end of this article (see *Sites for Researching Laws and Regulations*). Potential clinical trial participants are not likely to know the laws, so technical writers should inform them and provide as much balanced information as possible. The example of placebo use, described in the previous section, is just one of the areas that need to be handled with care so as not to confuse patients or be the cause of litigation.

For example, when designing informed consent documents for clinical trials in Russia, technical writers need to address the following questions: Should the differences in the legal requirements be mentioned? How should exclusion criteria be addressed? Does any additional information on the study design (e.g., the reasons for using a placebo) need to be provided? How should the tested medication be described in relation to its ingredients, dosages, and methods of administration?

2. Providing access to law. The ambiguities in the developing Russian law on clinical trials make it extremely hard for participants to find information about trials, which means that technical writers need to help orient them in this legal “ocean.” In addition, Internet access is still a luxury in many small towns, which makes tracking the changes in the regulations virtually impossible.

To address the problem of access to information, technical writers need to explore the possibilities of including additional legal information in consent documents. This is a rather challenging task—it requires knowledge of the law and a re-thinking of the organization of informed consent documents. Meanwhile, readability studies (e.g., Berg et al., 2001) suggest that the reading level for informed consent documents should be in the range between 5th and 10th grade; adding information will make the documents longer, which negatively affects retention.

3. Researching terminology. Technical writers who specialize in health care and, in particular, in clinical trial documentation must be familiar with the terminology, and the international context often makes even greater demands on their knowledge. The concepts and terminology with which technical writers are familiar (e.g., “inclusion criteria”) may have different meanings in other countries, so writers need to provide a point of reference for readers.

In addition, the level of understanding of clinical trial terminology varies around the world. Since trials are a new concept in Russia, many patients do not have a clear idea of what informed consent is. The term used in Russia—*информированное согласие*—is a direct translation from English and has the same legalistic sound to it. Technical writers need to start by explaining what the process actually is, including the fact that it exists to protect patients rather than investigational staff and facility. Writers should make clear that, for example, patients have the right to decline without losing any health care benefits, the right to have any questions answered before consenting, and the right to withdraw their consent at any point during the study.

However, technical writers work under tight deadlines, and it is not realistic to ask every writer who specializes in health care to become an expert on the laws of multiple countries as well as their varying terminologies. Thus, it is important for technical writers who know that their documents will be translated to develop good working relationships not only with study teams but also

with localization specialists. These professionals specialize on the country into whose language they are translating and can give expert advice on the law or provide direction in researching it.

4. Respecting the notions of privacy and agency in different cultures. Technical writers who are writing for international clinical trials need to be aware of the differences in the culture and mindsets of their target audience—potential trial participants—and the possibility that their customs and traditions are at odds with those of the United States. Such awareness has serious implications: To participate in clinical studies, patients must sign informed consent forms, and they need to familiarize themselves with all appropriate information about the trial to make such a decision. Families may participate in the health care of their relatives, but they cannot sign trial documents if the patient has clinical and legal capacity.

Even though drugs are usually tested on patients who have an underlying condition, some patients might not have much information about their illness. If they do not know the full extent of their condition and they first learn the details from an informed consent form, they will require help understanding the implications. A consent form that starts with “You have been invited to participate in this study because you have ...” and then goes on to describe the study design could be unnecessarily shocking and could create more questions than answers. Since it is hard to interact with actual participants in international clinical trials and receive user feedback, technical writers have to conduct research and communicate with localization specialists to obtain materials for audience analysis: to determine how much and what kind of information they need to provide in the consent document.

5. Encouraging questions and discussion.

For many Russian patients, participation in clinical trials offers the only hope of receiving appropriate medical treatment. In this context, using boilerplate templates determined by FDA regulations or provided by WHO (the primary task of these templates seems to be not to

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inform participants but to legally protect the investigator and the sponsor) essentially eliminates the possibility for discussion and thus real comprehension.

The current design of informed consent documents needs to be altered to include mechanisms for comprehension self-checks, which could signal to a patient areas where he or she needs to ask questions. Such self-checks could include comprehension questionnaires, in which patients are asked to remember the most important parts of the consent information. Staff could review the questionnaires to see if patients require more help to understand the implications of the trial. Also, consent forms should provide space to record patients' questions and any additional information received from the doctors to more accurately reflect the extent of information exchange.

6. **Addressing differences in doctor-patient relationships.** As we have already seen in the previous section, Russian patients tend to place more blind trust in their doctors than American patients do. While all participants need to sign consent forms, many Russian patients tend to disregard the informational pages. Technical writers should emphasize in a summary the importance of reading the whole document. Several authors (e.g., Berg et al., 2001) suggest discussing not just the risks of the trial but also the inconveniences of participation, which can have direct effect on patients' lives.

In other words, technical writers need to make documents more user-centered to help “users facing technically difficult and sometimes frightening information” (Kim et al., 2008, p. 336). Again, it is important that technical writers work in close contact with their localization colleagues, who could become cultural interpreters and supply new insights about international audiences. Such insights will provide technical writers with necessary information for analyzing the needs of participants in international clinical trials.

7. **Explaining the concept of benefits.** Some American patients lack understanding about

benefits in medical trials, because they (1) cannot differentiate between individual benefits and benefits to society; (2) do not comprehend that the likelihood of benefits might be low; and (3) do not understand that participating in medical trials is not the same as receiving treatment. In an international context, these three issues related to therapeutic misconception are exacerbated, owing to more problematic access to health care and the nature of the doctor-patient relationship in some countries. In addition, when informed consent documents are translated and localized, ambiguities may be added and obscure parts of the text may be mistranslated. To prevent this from happening, technical writers need to keep the following strategies in mind (adapted from King et al., 2005):

- *Avoid inconsistent or confusing terminology* by keeping terms simple, defining them succinctly throughout the text, limiting variations of the terms that refer to the experimental intervention, and describing potential direct benefits consistently.
- *Avoid misleading implications about receiving treatment* by letting the patient know that the primary goal of the trial is to help future patients, making a clear distinction between this goal and direct health benefits to the patient, being honest if no direct benefit to the participant is possible, and using terminology that has a “research” rather than a “treatment” connotation.
- *Avoid vagueness about potential benefits* by eliminating “empty” benefit statements (e.g., “you may not benefit if you join this study”); discussing each type of benefit separately; providing precise descriptions of reasonably possible direct benefits, including their nature, magnitude, duration, likelihood, and limits; and explaining the links between potential direct benefits and receiving the study medication.

To cope with these challenges, technical writing instructors should offer training that provides an understanding of the drug development process, the interconnections between the writing and research processes, and research strategies (Bonk, 1998). Such training should include “instruction in persuasion, collaboration, strategic and project management, … and

the location and interpretation of FDA regulations” (Tomlin, 2008, p. 289); it should teach how to relate skills and knowledge to specific tasks.

Future Research

This article looked at how the work of technical writers is complicated by differences in U.S. and Russian law, as well as the role of customs, traditions, and mindsets of participants in international clinical trials. When technical writers design informed consent documents for international clinical trials, they need to remember not only the requirements of legal authorities and regulatory agencies but also the concerns and needs of the primary audience of such texts: the participants. The article suggested strategies to address the problematic issues that arise from the interrelation of law and culture and that technical writers can adopt and adapt for their practices.

These strategies could be further developed to discuss ways to present information in consent documents for other countries. The following areas of research could provide additional insights:

- *The study of more sites (e.g., India, China, South America) of international clinical trials to better understand what differences might influence informed consent documentation.* While the example of Russia has implications for other countries involved in clinical trials, it cannot be used as a generalization for all the existing problems.
- *The role of technology in facilitating patient understanding and retention of information about clinical trials.* Some authors have looked into the possibilities of video and audio recordings or multimedia interfaces as part of the informed consent process (e.g., Henry et al., 2009; Kim et al., 2008). For example, Kim et al. (2008) explore a “user-centered design process to develop online support for informed consent in pediatric Phase 1 research trials” (p. 335).
- *The mechanisms for individualized patient education materials in clinical trials.* Bental, Cawsey, and Jones (1999) and Di Marco et al. (2008) point out that it is very hard to address all the right issues in generic paper brochures, because patients have different concerns, different levels of literacy and knowledge, and so on. These authors suggest

individualizing informational documents for clinical trial participants.

Technologies for facilitating the informed consent process and creating individualized consent documents may not be available in countries with few resources, but exploring these two possibilities is a step forward and can provide valuable insights for informed consent documents in the United States—a country where multiple languages and cultures are at work every day.

The strategies described in this article can help technical writers enhance the consent process for clinical trials; address the needs of participants, including their fears and hesitations; and educate health care professionals about what effective documents can achieve and the difference they can make. Sometimes this task will require the strength to withstand the stereotypes of designs and forms, but it will also give technical writers an opportunity to make a difference.

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Note

1. Unless specific medications for pregnant women are tested and necessary information can only be obtained in such trials; there should be no risk to the pregnant woman and fetus.

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Sites for Researching Laws and Regulations

United States

Clinical Trials. National Cancer Institute. www.cancer.gov/clinicaltrials

Drug Glossary. Food and Drug Administration. <http://www.fda.gov/drugs/informationondrugs/ucm079436.htm>

Inside Clinical Trials: Testing Medical Products in People. Food and Drug Administration. <http://www.fda.gov/drugs/resourcesforyou/consumers/ucm143531.htm>

Office of Human Research Protection: Policy Guidance. United States Department of Health and Human Services. <http://www.hhs.gov/ohrp/policy>

Science & Research: Running Clinical Trials. Food and Drug Administration. <http://www.fda.gov/scienceresearch/specialtopics/runningclinicaltrials/default.htm>

Understanding Clinical Trials; What's New in Clinical Trials; Glossary; Study Lists. U.S. National Institutes of Health. www.clinicaltrials.gov

Vaccines, Blood & Biologics: Development & Approval Process. Food and Drug Administration. <http://www.fda.gov/biologicsbloodvaccines/developmentapprovalprocess/default.htm>

Russia

Descriptions of some studies conducted in Russia. <http://clinicaltrials.gov>

Clinical Trials portal. Articles in Russian and English about clinical trials & regulations. <http://cra-club.ru/content/view/1013/1>

Conference papers on clinical trials and laws in Russia. Florentine East-West Medical Congress: Latest Advances in Clinical Trials: From Clinical Trial to Clinical Practice. <http://www.fondazione->

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International

Clinical Trials. World Health Organization. http://www.who.int/topics/clinical_trials/en

Clinical Trials Portal of IFPMA. http://clinicaltrials.ifpma.org/no_cache/en/myportal/index.htm

Convention on the Human Rights and Biomedicine of the Council of Europe. <http://conventions.coe.int/treaty/en/treaties/html/164.htm>

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European Union Commission: Directives on Clinical Trials. http://ec.europa.eu/enterprise/pharmaceuticals/eudralex/vol1_en.htm

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International Clinical Trials Registry Platform. World Health Organization. <http://www.who.int/ictrp/en>

International Council of Nurses. <http://www.icn.ch>

International Ethical Guidelines for Biomedical Research Involving Human Subjects. Council for International Organization of Medical Sciences. <http://www.cioms.ch>

International Federation of Pharmaceutical Manufacturers & Associations (IFPMA). <http://www.ifpma.org>

International Pharmaceutical Federation. <http://www.fip.nl/www>

The Declaration of Helsinki, its clarifications and revisions. The World Medical Association. <http://www.wma.net/en/10home/index.html>

The International Conference on Harmonization of Technical Requirements for Registration of Pharmaceuticals for Human Use (ICH). <http://www.ich.org/cache/compo/276-254-1.html>

WHO Collaborating Centre for Patient Safety Solutions. <http://www.ccforpatientsafety.org>

World Health Professions Alliance. <http://www.whpaa.org/ppe.htm>

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Legal and Regulatory Issues for Technical Communicators Conducting Global Internet Research

Heidi A. McKee and James E. Porter

Abstract

Purpose: This article discusses the ethical and regulatory issues that technical communicators need to consider when conducting Internet research.

Method: We open by considering how technical communicators live, work, and do research in global contexts where distributed networks for the design, development, and distribution of documents, interfaces, and technologies span cultural and geographic borders. By drawing on published case work and interviews with technical communicators who work in global contexts, we examine the key legal and ethical issues technical communicators face when they are conducting Internet research. We propose heuristics for technical communicators to use when addressing these issues.

Results: Key legal and regulatory issues that technical communicators face when conducting Internet research include the diversity of legal regimes, the variability of privacy laws and cultural differences, the impact of government surveillance on research risks, and the complexity of intellectual property in a global world.

Conclusion: Technical communicators need to be aware of the potential legal and regulatory challenges they may encounter when conducting Internet research that spans cultural and geographic borders. By consulting precedent cases, seeking advice from diverse audiences (e.g., focal participants, corporate legal), and remaining flexible in research design, technical communicators can successfully meet these challenges.

Keywords: internet research ethics, privacy, intellectual property, law, globalization

Practitioner's Takeaway

- When conducting Internet research that spans cultural and geographic borders, technical communicators need to be informed of applicable laws and regulations, including knowing what country has jurisdiction.
- Because understandings and expectations for privacy are culturally determined, technical communicators will be well served to understand the cultural expectations of the persons whose communications they study.
- Technical communicators need to be aware that in many countries and regions of the world, Internet communications are closely watched, censored, and regulated, raising risks for researchers, the companies for whom they work, and the persons whose communications they study.
- To seek answers in the ever-changing regulatory, legal, and cultural climate, technical communicators need to ask a range of questions, consult precedent cases, and seek advice from diverse audiences.

Introduction

Isn't *all* research global research by now? If not yet, it is probably moving there. Increasingly, technical communicators live, work, and do research in global contexts, where distributed networks for the design, development, and distribution of documents, interfaces, and technologies span cultural and geographic borders. As Starke-Meyerring, Duin, and Palvetzian (2007) noted, "As workplace professionals and as citizens, technical communicators increasingly experience a fundamentally changed communication environment as a result of globalization" (p. 141)—and, we would add, particularly as a result of Internet-based global communications. More and more, the work of technical communicators is "distributed" work (Spinuzzi, 2007) in global networks.

For example, as technical communicators work with colleagues, partners, and clients around the globe, U.S. technical communicators create training manuals used by managers in China—and vice versa. International project teams comprising members from, say, Kenya, India, and the United States, all of whom work for the same transnational corporation, create documentation for users in East Africa and Southeast Asia. Increasingly, the design of online information products—for instance, basic decisions about information architecture for a given product (McCool, 2006)—requires knowledge about potential audiences.

To be most effective and successful working amid the complexities of global networked environments, technical communicators need to develop knowledge about, and therefore conduct research on, cross-cultural audiences and communication issues—a point made by former *Technical Communication* editor George Hayhoe: "Today we must address the needs of global audiences. . . . To do our jobs, we need research about audiences in cultures with whom we are beginning to communicate. . . . It is vital for the continued success of our companies and our profession" (Hayhoe, 2006, p. 141).

Testing for usability, for instance, increasingly demands that we develop a better understanding of how to design information for cross-cultural audiences using mobile devices. Such an effort will require research, much of which will be Internet-based. For example,

to understand how audiences from different cultures access and use mobile text messaging systems, Sun (2006) conducted a comparative case study of users in Albany, NY, and in the Hangzhou region of Zhejiang province in China. Sun's research showed that U.S. and Chinese participants used text messaging in different ways, bringing different cultural expectations to their habits of texting that have important implications for the design of mobile devices and handheld interfaces. Such studies will become the foundation for technical communicators who are designing and structuring interfaces, producing documentation, conducting usability studies, and developing content management systems for global users.

Global research raises many methodological and ethical challenges for technical communicators, particularly for those working with Internet technologies, because of the cross-cultural, international, and transnational nature of the work. In the process of planning, collecting data for, and presenting a research study, Internet researchers face myriad issues, including legal and regulatory issues. Negotiating legal codes and government regulations—as well as actual government practices, which may or may not be consistent with laws and regulations—is an important aspect of any researcher's work; it is especially important for Internet researchers, who often face additional complexities because of the networked, global nature of the Internet.

Our aim in this article is to focus on how international laws and regulations affect technical communicators doing Internet-based research. Because laws and regulations are continually revised, we will not attempt to provide an up-to-date report on current laws in various countries—an impossible task that would be out of date as soon as we finished. Nor will we attempt a comprehensive discussion of the full range of government oversight that might affect researchers. Instead, we will focus on a few examples drawn from the experiences of researchers we interviewed, focusing on three main considerations: issues of privacy, government censorship, and intellectual property.

Our analysis is based on interviews with technical communication researchers and on published reports of research. (For a full description of the methodology and theoretical framework for this article, see McKee & Porter, 2009.) Our goal here is to highlight the kinds

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of issues that technical communicators doing Internet-based global research are likely to encounter.

The Complexity of “Obey the Law”

In *Ethics in Technical Communication: Shades of Gray*, Allen and Voss (1997) list ten core values for ethical communication (which also apply to research). The second value on the list is legality, which they define as the “duty to follow the laws and regulations that govern our profession, including meeting all terms and obligations of legal contracts we undertake” (p. 100). This seems clear-cut and obvious: We should obey the law. But it is not always so simple, particularly in the realm of international law.

When a technical communicator lives in one country, works for a corporation headquartered in another country, and is studying users in five other countries, what is the law? Which country’s law should a technical communicator follow if, as is bound to happen, conflicts exist among countries’ legal codes? What legal issues might technical communicators face in conducting global research? And what should they do when laws and regulations are at odds with fundamental ethics or human rights principles? (For a discussion of the latter question in relation to international project teams, see Voss & Flammia, 2007.)

Although abiding by guidelines, regulations, and laws is usually a sine qua non of ethical action, it is not the end of ethical considerations for a researcher. As Voss and Flammia (2007) point out, laws can be unethical, such as the racially discriminatory Jim Crow laws in the United States (p. 75). Researchers are under no obligation to follow unethical laws (Porter, 1997). However, under normal circumstances, being aware and respectful of regulatory review, legal codes, and government practices is an important aspect of any researcher’s work.

Compounding these complexities is the rapid pace of technological change and the ever-changing nature of Internet communications. Often organizations, institutions, and governments—and their laws, policies, and regulations—simply cannot keep up, providing Internet researchers with too little guidance or inappropriate guidance that applies overbroad generalizations or makes false comparisons between

offline and online research. Yet, despite the difficulties technical communication researchers face when they seek to negotiate regulatory and legal issues, we believe that the research process and ethical approaches for research are strengthened when researchers consider as fully as possible the range of laws, regulations, and practices that affect their work.

As we are using these terms, a “law” is a formal statute enacted by a governing body (e.g., a monarch, a legislative assembly), while a “regulation” is a specific interpretation of a statute by a government agency responsible for implementing or policing the statute. A “practice” is simply any action that a government takes, whether guided by laws and regulations or not. In fact, some government practices are not authorized by—indeed, may be quite inconsistent with—formal laws or regulations (e.g., subsidies to farmers or businesses that violate trade agreements and interrogation techniques that constitute torture and violate state constitutions and international human rights agreements).

Because of the global nature of the Internet, researchers often work across geopolitical and cultural borders. Communication content that may be permitted in one country—a pro-democracy sentiment, for example, or a view that women are entitled to work outside the home—may be prohibited in another. Thus, technical communicators doing Internet research not only need to be aware of laws, regulations, and practices to (perhaps) abide by them, but they also need to be aware of them to avoid placing the persons whose communications they are studying at risk.

Privacy Laws and Cultural Difference

Privacy and the protection of privacy are central issues for technical communication researchers. Most countries or regional alliances in the world have privacy laws regulating what material may or may not be shared about individuals. These laws vary widely and are, of course, enforced to various extents. Technical communication researchers need to be aware of these laws, because the information they gather and the technologies they use to gather it may fall under special legal protections.

For example, since the passage in the United States of the Health Information Privacy Protection Act (HIPPA), which puts strict limits on sharing an individual's health information, many technical communication researchers studying health communications have been required to go through specialized research training. Researchers studying children and their communications also face myriad laws and regulations, since many countries have additional protections in this area. In the United States, the Children's Online Privacy Protection Act of 1998 (COPPA) regulates what data may be collected from children under the age of 13 (15 USC 91).

Although countries in a particular region of the world (e.g., East Asia, Central America) or with a common dominant cultural background (e.g., Great Britain, Canada, Australia) are more likely to share common traits, particularly in terms of rhetorical patterns in the reception and production of visual and verbal communications, technical communication researchers will still be well served to identifying the laws governing the collection and study of communications, particularly around issues of privacy.

For example, even though the European Union, the United States, and Canada share many western cultural traditions—and are often treated as culturally similar, if not the same—they have different traditions regarding privacy and privacy laws. Levin and Nicholson (2005) note that, legally, “in the U.S., privacy protection is essentially liberty protection, i.e., protection from government. For Europeans, privacy protects dignity or their public image. In Canada, privacy protection is focused on individual autonomy through personal control of information” (p. 357). Ess (2002) also noted “an apparent contrast” between U.S. and European laws and guidelines regarding privacy:

European law (first of all, the EU Data Privacy Protection laws) and ethical codes for research (primarily, the NESH [National Committee for Research Ethics in the Social Sciences and Humanities] guidelines) more fully endorse a deontological insistence on protecting the rights of individuals, no matter the consequences. That is, these

rights—including rights to autonomy, confidentiality, informed consent, etc.—and their protection are emphasized as (near) absolute values, ones that cannot (generally) be overridden by utilitarian considerations of possible benefits gained at the cost of compromising these rights, e.g., in the name of economic efficiency and/or research interests, including possible benefits to society. By contrast, U.S. law regarding data privacy, for example, appears to clearly favor the utilitarian interests of economic efficiency—first of all, the economic interests of corporations—over individual rights.

Even though the EU supports stronger privacy rights than does the United States, at least with regard to protection from commercial and private invasions of privacy, others point out that European laws tend to be more lenient regarding government intrusions on privacy. According to Sullivan (2006), wiretapping is “130 times more common” in the Netherlands than in the United States. Sullivan summed up the distinction this way: “Europeans reserve their deepest distrust for corporations, while Americans are far more concerned about their government invading their privacy.”

Further complicating considerations of privacy (and, as we discuss below, copyright), especially for researchers working around the globe, are the variations between countries with common law systems and those with civil law systems. Common law originated in England (and is found in most Commonwealth and former Commonwealth countries); it is built on case-based reasoning, in which laws emerge from the decisions of judges on specific cases. In common law systems, laws governing privacy can be changed rather quickly through the process of judicial review, in which individual judges can create new legal precedents via rulings on a case. Civil law is Roman in origin and is built on legal principle and codes that cannot be changed via judicial ruling. Thus, civil law systems move much more slowly in response to new developments and technologies, because in these systems, judges may not create precedent for new legal interpretations and rulings that future cases

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may rely on. Rather, judges may only rule on or do what is in the specific wording of laws drafted and passed by the legislature. For this reason, the pace of international change in relation to such issues—and the prospects for quick harmonization of international legal opinion on these issues—can vary greatly from nation to nation, depending on the legal system at work. (For further discussion and databases of resources on issues of transnational law and privacy, see UNIDROIT: The International Institute for the Unification of Private Law, <http://www.unidroit.org/>.)

In addition to laws, international and national charters, declarations, and statements of principles for the rights of persons also apply to technical communication researchers, including the African Charter on Human and Peoples' Rights (African Commission, 1981), the Charter of Fundamental Rights of the European Union (European Parliament, 2001), and the most translated document in the world (translated into more than 350 languages): the Universal Declaration of Human Rights (United Nations General Assembly, 1948). In this document, a key principle is that all persons are created equal and are entitled to full and equal protections, including the protections of privacy. Article 12 of the declaration states:

No one shall be subjected to arbitrary interference with his privacy, family, home or correspondence, nor to attacks upon his honour and reputation. Everyone has the right to the protection of the law against such interference or attacks.

Depending on how individuals perceive their Internet communications, technical communication researchers—especially those who collect, copy, or quote others' communications without consent—could be perceived as violating an individual's human right to privacy.

Two tenets of the Code of Ethics of the Association of Teachers of Technical Writing (ATTW, 2009) regarding our responsibilities to the public specifically address issues of privacy:

- To protect the security, confidentiality, and privacy of the information we are entrusted with.

- To adhere to standard principles of research with human subjects by obtaining informed consent and maintaining the privacy and confidentiality of research results.

But determining what communications are public and thus subject to research without informed consent (although copyright considerations may apply—see below) is difficult, especially on the Internet. On the Internet, the notion of “public” is radically problematized; in most cases there is no bright line distinguishing between public and private discourse (see Rife, 2007). The Internet consists of a broad continuum of discourse types, ranging from those intended for wide public distribution (e.g., CNN, Médecins Sans Frontières, Facebook's Terms of Use) to those intended for limited circulation (e.g., MySpace pages with share settings) to those intended for very limited, more private use (e.g., communications on corporate intranets).

Different forums operate by distinctive customs and particular conditions of use shaped by users' expectations of privacy. Even within a single forum, differing participant norms and expectations may exist, as in Second Life, for example, or on Facebook, where people have different use expectations for profiles and wall posts than for person-to-person messages sent via Facebook's e-mail feature. What we see is an emergent consensus among researchers that the public-private distinction should not be regarded so much as a binary with two unambiguously clear meanings at either end but rather as a continuum (Bruckman, 2002a; 2002b) or as “indexical signs that are always relative: dependent for part of their referential meaning on the interactional context in which they are used” (Gal, 2002, p. 80).

We can regard the public-private distinction as fractal because “the distinction between public and private can be reproduced repeatedly by projecting it onto narrower contexts or broader ones” (Gal, 2002, p. 81). Gal cited as one example the “privacy” of the house: Within the public space of a city or street, a house is private. But within the house, there are “public spaces” (the living room) and “private spaces” (the bedroom and bathroom), and within those spaces the conventions for disclosing information can vary depending on the people who are interacting and their degree of trust with one another. Thus, notions of

public and private are not coherent and distinctive but rather “fractralized,” where the distinction between the concepts operates at different levels of granularity (Gal, 2002; Lange, 2007). For example, in her ethnographic study of young people’s online video-sharing practices on YouTube, Lange (2007) discovered that users have different levels and fluctuating notions of privacy in their online interactions, engaging in what she called “publicly private” and “privately public” practices. Lange concluded that on social networking sites, new patterns of online behavior are emerging that are “neither strictly public nor strictly private.”

The matter of public versus private is further complicated by cultural differences. Across and within cultures, there are widely varying and changing understandings of what is private and for whom. For example, as Ess (2009) explained in *Digital Media Ethics*, “‘privacy’ in many Asian cultures and countries has traditionally been understood first of all as a *collective* rather than an individual privacy—e.g., the privacy of the *family* vis-à-vis the larger society” (p. 52, emphasis in original).

According to Nakada and Tamura (2005), Japanese culture does not have a single, well-defined notion of privacy; rather, it has a complex and pluralistic view that combines both a traditional worldview (*seken*) and a more modernized, western view (*shakai*). The traditional view of privacy is related to the virtue of maintaining “harmony between people, along with trusted human relationships” rather than to the western/Enlightenment sense of autonomous individual rights as a form of property right (see also Voss & Flammia, 2007). However, Nakada and Tamura also noted that western values are becoming enmeshed with more traditional Japanese values, and the result is a complex mix of views. To some extent, Japanese culture is embracing western concepts of privacy regarding data privacy; that is, “the right to control one’s personal information” (p. 33).

But it is not just in Japan or in Asian countries and cultures where notions of privacy are shifting. Privacy in western cultures has often been viewed as the right of autonomous individuals (see Ess, 2009, pp. 51–59), but as Capurro (2005) pointed out, in the new networked society, ethics and values may be shifting to a globalized principle, one he calls “networked individualities” that may represent a shift to a more group-oriented notion

of privacy (pp. 40–41; see also Mizutani, Dorsey, & Moor, 2004). The target here is clearly a moving one.

For technical communication researchers, what this means is that in seeking to abide by laws, codes of ethics, and declarations, we need to pay attention to the particularities of communication venues and contexts we seek to research. One technical communication researcher we interviewed (who asked to not be identified) worked for a software company, conducting on-site usability studies of microbusiness computing practices in a large developing country. Microbusinesses are, as the name indicates, small businesses that employ just a few people, many of them family members. Conducting such research was difficult for this researcher not only in terms of obtaining informed consent (participants refused to sign any document that could be traced back to them, so the researcher modified the protocol to obtain oral consent), but also in terms of balancing public-private communications. Most of the microbusinesses being studied were run out of people’s homes or in buildings where the families also lived, and most business was conducted on mobile devices that were used for both personal and work-related communications. Thus, the data collected through surveys and mobile digital capture covered public and private uses and contexts of use. In the reporting, this researcher and his team had to make nuanced, culturally attenuated judgments about what to report, not just out of respect for the privacy expectations of participants but also to protect the corporation from potential harm for violating the developing country’s regulations governing data collection.

Not only must technical communicators account for ever-evolving cultural differences in the discussion of private and public, they must be aware of changing laws and regulations passed by governments and regulatory agencies that are struggling to keep abreast of the rapidly changing technological and global matrix in which citizens work and live. To conduct research legally and ethically, technical communicators must identify privacy and other laws that may apply to a particular research context and analyze the cultural understandings of privacy that shape users’ expectations.

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Government Surveillance and Research Risk

Technical communication researchers working in global contexts can also run afoul of other laws and regulations, some that may cause significant harm to the researchers or their subjects. Because of various laws in various countries, reporting certain information that could be traced back to individuals (or the organizations they represent) could result in criminal prosecution and social, financial, or even physical harm, depending on the nature of the information and the country in question.

Beth Kolko, associate professor of technical communication at the University of Washington, is keenly aware of such dangers. She co-directs the Central Asia + Information Communication Technologies project (2009), a multiyear investigation of the Internet and related mobile technology developments in Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan. To study how culture, policy, and infrastructure affect people's use of information and communication technologies, this extensive longitudinal project uses numerous data collection methodologies, including surveys in each country on Internet access and use, interviews with professionals in various fields, and tracking of public Internet access facilities. All the Central Asian countries that Kolko and her team study engage in various degrees of government control of Internet access and communications.

In 2006, the OpenNet Initiative conducted an empirical study of Internet filtering and surveillance in 40 countries (Deibert, Palfrey, Rohozinski, & Zittrain, 2008). They found evidence of filtering in 26 of those countries, including Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan. Among the Central Asian states, Kazakhstan and Uzbekistan are the most repressive, with authoritarian governments intent on controlling the flow of information (Deibert et al., 2008). According to the OpenNet study, as reported in the country profile (Uzbekistan, 2007),

The security forces in Uzbekistan manually check Internet access at “edge locations” (such as cybercafés) and monitor users’ activities. The regulatory

framework is so intricately woven that, in most cases, ISPs and Internet publishers are unaware of the governing law. To avoid inflicting the wrath of authorities, Internet actors frequently undertake self-censorship. (p. 7)

In Kazakhstan, according to the country profile: “Current rules require all Internet traffic to pass through state-owned channels, politically sensitive Internet content is selectively filtered, and opposition media and bloggers are said to practice self-censorship for fear of government reprisal” (Kazakhstan, 2007, p. 1). In both countries, ISP providers are required to keep detailed data on all Internet users and their online activities.

When we asked Kolko about government surveillance and censorship of the Internet, she described how difficult it has made her research, in both its online and offline components:

For example, I think it was 2004, I was on the way to the region. I was on the way to Uzbekistan. In Heathrow I ran into someone I knew—another professor—and we were talking, and she asked, “How is your project going? How are your local researchers?” Let me explain. I work with local researchers, anywhere from 8 to 12 local researchers spread across the countries [to conduct surveys and observations in Internet cafes]. So, at the airport, she said, “How’s it going?” and I said, “It’s fine.” So she said, “I can’t get anyone to work with me right now because the Uzbek government just passed a law that anyone accused of giving sensitive information to foreigners will be accused of treason, and the law doesn’t define what is sensitive information.” Now the penalty for treason in Uzbekistan is death, I believe. If it’s not death, then the penalty for being arrested in Uzbekistan is often death [because of how badly prisoners are treated]. (Kolko, personal interview, December 8, 2006)

Because of the passage of this new law, yet another layer of potential harm was added to Kolko's research project, a layer that, understandably, deeply concerned Kolko:

I was being kept up late at night worrying, my god, what happens if these people [the local researchers] get arrested? So we ended up abandoning one of our research methods, and instead hired a local survey firm [that works with government approval] to do the survey for us. There's a couple trade-offs—our aim [for the study] is much larger now, but our methodology is not as good as if we were doing it with our locally trained people. But I don't have to be kept up at night worrying about them disappearing. (Beth Kolko, personal interview, December 8, 2006)

While not all researchers face concerns as grave as having collaborators or participants "disappear," other dangers exist. Another researcher we interviewed, Terri He (who is not a technical communication researcher but whose experiences illustrate the difficulties of conducting research on global communications that are potentially open to government surveillance) studied an online queer activist community to examine the intersections of gender, sexuality, and globalization in nationalistic discourse. As she researched this online community, He had to balance her need to represent the specifics of the discussion with her desire not to expose individuals to harm. Homosexuality is legal in Taiwan, but it is treated somewhat ambivalently, not least because it is still taboo in China. Because of Taiwan's uncertain political status vis-à-vis the People's Republic of China, the possibility of a Chinese intervention and crackdown is an omnipresent reality in the lives of the Taiwanese. As He explained:

The reason for feeling anxious about Chinese laws and governmental authority lies in the fact that China regards Taiwan as a rebel region that must be reunited with the mainland—by force if necessary. Almost all nation states worldwide, in

addition, are actually with China on this point and do not establish official diplomatic relations with Taiwan. Such an unfavorable situation increases the worries for its residents on the Taiwanese islands, and extends it into the realm of the Internet. (Terri He, personal communication, March 10, 2009)

He was especially aware that the people whose communications she studied could be exposed to harm if their sexual orientation were widely publicized. In China, although no law explicitly bans homosexuality and government oppression of homosexuals has lessened in severity in recent years, lesbian, gay, bisexual, and transgendered individuals still face severe stigma; loss of jobs, family, and educational opportunity; potential social and political harassment; and even imprisonment (Yanhai, 2001). In addition, given the extent of China's Great Firewall and the massive surveillance initiative of the Golden Shield project (Walton, 2001)—which includes requirements that ISPs and Internet cafes (where most Chinese access the Internet) keep detailed records of users' online activities—it is becoming increasingly easy for the Chinese government, like other governments around the world, to track individuals' online communications.

Technical communication researchers studying communications, particularly online communications in which people discuss potentially regulated subjects, need to be aware not just of laws and regulations but of government and employer practices that may affect the persons being studied. The OpenNet study of worldwide Internet censorship (Deibert et al., 2008) identified a number of subjects regulated by government filtering of Internet content, including political reform, human rights, women's rights, environmental issues, economic development, gay/lesbian content, and dating, as well as religious conversion, commentary, and criticism (p. 7).

Although the readership for a corporate report or journal article may be small and attendees at a conference may represent a specialized group, researchers should never assume that what they publish will stay within the academic or corporate boundaries for which it was produced, particularly in this age

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of digital networking (Porter, 2009; Rife, 2007). As researchers, we must assume that there is a chance (no matter how slim), that our work could be picked up by a broader audience, perhaps journalists seeking information for a newspaper article or government agents tracking publications that mention their country. Our work as researchers has the potential to bring greater scrutiny to communications that otherwise might not be noticed because of the sheer volume of online communications. All researchers should be aware of the potential harm to participants from those who may read their work, but especially researchers who study Internet communications and people's use of the Internet in countries where government surveillance is an issue. In such countries, Internet research can expose subjects to a higher degree of risk than in countries with a tradition of freedom of expression.

Intellectual Property in a Global Context

A challenge for technical communicators doing Internet-based research is to negotiate intellectual property ethics, regulations, and laws in a global context for which a firmly settled or authoritative legal framework does not yet exist. However, a global human rights perspective is emerging, we believe, as a consensus standard—albeit a very broad one and one that is not without some controversy—that can guide technical communicators with regard to copyright questions related to research.

It is beyond the scope of this chapter—and, indeed, our expertise—to attempt an extended discussion of issues pertaining to international intellectual property. In general, though, it is important for Internet researchers to realize three key points, articulated by Gnädig, Knorpp, Grosse Ruse, and Giannakoulis (2003), about copying across international intellectual property regimes:

- Many acts of using copyrighted material are not limited to the territory of one particular country but concern several territories. Therefore they [researchers] should examine which different national legislation could possibly be touched by their research activities.

- In general, at least the law of the country in which the act whose copyright legality is in question occurs is applicable. This rule applies independently of the nationality of the user or the author, and irrespective of where the work was first published.
- The distributor needs to take into account all the different copyright laws of the countries in which distribution takes place. Only the laws of countries to which copies are distributed unintentionally can be left aside. (p. 12)

Generally speaking then, according to Gnädig et al. (2003), when researchers *copy* a work, they are subject to the laws of the country in which the copying act takes place. However, when researchers *distribute* copied work (as may be the case for publication), they—and probably the publisher—must take into account the copyright laws of the countries targeted by the distribution, a principle that raises some serious problems for Internet-distributed content. In general, for a researcher working through these murky issues of jurisdiction, it is helpful to take both an international perspective and a global perspective toward intellectual property issues (Yu, 2007a; 2007b).

An *international perspective* takes a comparative view, looking at the differences among intellectual property regimes—culturally and legally, in principle and in practice, and across different national or cultural boundaries. Researchers working with this perspective might compare, for instance, the laws and customs in China, where intellectual property is viewed more communally, versus those in the United States, where it is viewed more individualistically (at least until a work enters the public domain).

An example of the international/comparative perspective applied to intellectual property matters is the often-discussed difference between U.S. and European Union copyright law with regard to the author's moral rights. As Suhl (2002) and others have noted, U.S. copyright law does not have a strong established tradition of recognizing the author's moral rights, while European law and custom do. An author's moral rights include the right of attribution (i.e., to be credited as author of the work); the right to preserve the integrity of the work; and even, in some jurisdictions, the right to control performance, production, or distribution

of the work. U.S. law focuses mainly on the rights of the copyright holder, who may or may not be the original author/creator of the copyrighted work. Suhl (2002) pointed out that the differences in an author's moral rights are due to differing cultural views about the purpose of creative works and their relationship to society at large:

The level and type of protection afforded to creative works by U.S. law is a reflection of its market-dominated political economy. In Continental legal systems, intellectual and creative works are manifestations of the culture. ... Copyright law in the U.S. is a reflection of a utilitarian tradition. In contrast, Continental copyright law is a derivative of natural rights and German idealism. (pp. 1213–1214)

One implication of this difference for Internet researchers is that authors of works published in the European Union have more rights, more control, and more say regarding reproduction and redistribution than authors have under U.S. laws and customs. This difference in intellectual property law may extend to (as well as from) cultural differences, perceptions, and customs regarding the rights of the creator/author. (See also Ess, 2009, 74–75.)

However, as the EU seeks to standardize laws across member nations, corporate rather than individual authorship is becoming more typical, particularly in the context of work for hire, the venue in which most technical communicators work. But even within the EU there are differences of degree—for example, between UK and continental traditions—regarding the author's moral rights. France, for instance, has the legal “right of integrity,” in which the author has the right

to combat an adaptation that does not truthfully represent the work [or] when a public display of a work is detrimental to the work's overall conceptual view. The author in France, and in many other Continental regimes, maintains a personal connection with his or her creation that extends beyond the author's reputation

interests; essentially, the author is allowed to intervene whenever he or she feels that a modification to a given work may affect the public's judgment of the author. (Suhl, 2002, pp. 1222–1223)

Transfer of copyright practices also highlight differences. In the United States, copyright transfer is a fairly common practice. In fact, the work-for-hire provision in U.S. copyright law makes transfer to an employer the default position for authorship: “The employer or other person for whom the work was prepared is considered the author” (U.S. Copyright Office, 2008, section 201b). Notice that the employer is not just regarded as the copyright holder but actually becomes the author. In general, EU member states hold to a very different view of authorship, but there are also differences among countries. In the United Kingdom and the Netherlands, transfer of copyright more closely resembles U.S. law; however,

in most continental EU Member States, the creator of a piece of work is considered to be the author and copyright-holder. In most cases, that original right-holder will be an individual. Some countries (like Finland or Germany) don't accept legal entities like universities or companies to be such original copyright-holders at all. Some countries (like France, Portugal, Spain, Italy and the Netherlands) allow them to obtain copyright as such only under quite restrictive conditions. (Gnädig et al., 2003, p. 26)

Differences also exist with regard to duration of copyrights. For instance, in some member states of the European Union, the author's moral rights “are perpetual (e.g., France), while in others, moral rights expire at the same time as economic rights” (Gnädig et al., 2003, p. 42).

Differences also exist between U.S. and European notions of fair use. For example, Lewen's (2008) research made clear that the strong copyright protections regarding digital filesharing under U.S. law do not export well to Sweden, which has a legal

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tradition known as *allemansratten* (rights of common access) that allows persons “to walk and even camp on privately-owned land, as long as they do not harm the land or interfere with the activities of landowners” (p. 192). Although originally developed for property issues, the cultural expectations that accompany the rights of common access carry over into intellectual property considerations for print and digital works.

What constitutes harm and interference to land or intellectual property varies from culture to culture (and, within a culture, from legal decision to legal decision). An international ethical perspective examines these differences and reflects on their significance for the use of copyrighted work for purposes of Internet research. This perspective probably works best for limited comparisons on a case-by-case basis, but because it is case-specific, it may be hard to extrapolate to broad (global) circumstances. This is where a global perspective, working in concert with an international perspective, can be helpful.

A *global perspective* looks at the underlying principles and legal standards for intellectual property that the international community shares, has already developed (e.g., in the Berne Convention, the International Copyright Protection System), and is continuing to develop. A global perspective does not attempt to efface or deny differences, although that can be an unintended consequence of developing shared standards. Rather, this perspective acknowledges that if we want to interact and live in shared spaces, it is important to establish shared policies, customs, regulations, and laws, and to arrive at some common understandings about how we are going to live and work together (see Camarce, 2007; Helfer, 2007). These emergent global principles and standards can operate as a kind of benchmark to establish minimum standards and harmonize differences across intellectual property regimes.

The Universal Declaration of Human Rights considers intellectual property rights to be a fundamental human right:

Article 27. (1) Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits. (2) Everyone has the right to

the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author. (United Nations, 1948)

Like the U.S. Constitution, with its balance between individual rights and societal good, the Universal Declaration of Human Rights recognizes that a balance is needed—between the “right to the protection of moral and material interests” and “the right to...share in scientific advancement and its benefits.”

Article 27 can be viewed as an international principle regarding intellectual property—and that principle articulates a balanced approach to the right of copyright holders vis-à-vis the rights of the public. However, according to Schultz (2006) and others, this balance has been “attenuated” in recent years as corporations (particularly in the United States) have used their influence to pass legislation and influence international agreements in a way that tips the balance in favor of stronger copyright protections; for example, lengthening the term of copyright (the Sonny Bono Copyright Act of 1998) and criminalizing “unauthorized access” to copyrighted material (the Digital Millennium Copyright Act of 1998).

Some intellectual property scholars argue that we are in an era of “copyright grab” (Samuelson, 1996) or a “second enclosure movement” (Boyle, 2003). Like the English enclosure movement from the 15th through the 19th centuries—which involved fencing off and privatizing common grazing land—this movement involves curtailment of the public right to access intellectual property, a right that includes the access rights of researchers to use public information for research purposes.

In terms of specific laws, beginning with the 1886 Berne Convention for the Protection of Literary and Artistic Works, a series of international treaties have aimed at harmonizing copyright law. Article 10 of the most recently revised Berne Convention articulates a general fair use provision that could be said to establish a universal agreement:

It shall be permissible to make quotations from a work which has already been lawfully made available to the public, provided that their making is compatible

with fair practice, and their extent does not exceed that justified by the purpose, including quotations from newspaper articles and periodicals in the form of press summaries. (World Intellectual Property Organization, 1979, Article 10)

However, the Berne Convention also recognizes the principle of the author's moral rights to claim ownership over a work, even if those rights have been transferred:

(1) Independently of the author's economic rights, and even after the transfer of the said rights, the author shall have the right to claim authorship of the work and to object to any distortion, mutilation or other modification of, or other derogatory action in relation to, the said work, which would be prejudicial to his honor or reputation. (Article 6^{bis})

Building on Berne, other agreements have arisen, including the Trade-Related Aspects of Intellectual Property Rights agreement (TRIPS) (World Trade Organization, 1994). Because of the TRIPS agreement, all WTO member states now have a set of minimum standards regarding international intellectual property. According to Yu (2008), the TRIPS agreement is "a universal template for modernizing intellectual property systems" (p. 932). That said, Yu is careful to point out that the agreement primarily represents the interests of powerful WTO member states and does not itself fully address "the challenges confronting less developed countries and ... the local conditions in these countries" (p. 939). Also problematic is the fact that implementing international agreements requires a well-developed judicial system to review cases and the political will to back up such an effort. Many countries have neither. Still, from the point of view of research, such agreements can serve as international benchmarks to guide ethical decision making. From these and other statements of law and principle, what has emerged over time is something close to a global consensus regarding copyright.

Fitzgerald and O'Brien (2006) described this consensus: "Moral rights [for example, the right of attribution, to be credited for the work, and the right

to preserve the integrity of the work] stay with the creator or author. Economic rights [the right to control reproduction and communication to the public] go with the copyright owner" (p. 224). Fundamental to moral rights for authors are, first, the moral right of attribution: Content creators should be credited for their intellectual property. (See Lastowka, 2007). Second is the right to preserve the integrity of the work: The content should not be skewed, misrepresented, or changed in a way that dramatically changes the original intent or that violates the author's integrity. (As we have pointed out, these moral rights for authors have a stronger legal tradition in Europe than in the United States. However, in U.S. Copyright Law, section 106a, added in 1990, does grant authors of works of visual art rights of attribution and integrity.

Some have criticized these international standards for being far too influenced by copyright legislation recently enacted by the U.S. Congress that expands the rights of copyright owners at the expense of the public interest (see Harmonizing Copyright's, 2008; Reichman, Dinwoodie, & Samuelson, 2007). Doreen Starke-Meyerring (2005) argues that "globalizing processes are dominated by corporate neoliberal interests in the removal of government regulations from global markets through such organizations as the WTO, the IMF [International Monetary Fund], and the World Bank" (p. 485).

Despite these debates, an international standard is emerging that is fundamentally a human rights approach to intellectual property and a view of intellectual property that affords moral rights to the author stronger than those recognized in U.S. copyright law. Technical communicators doing Internet-based research should stay up to date on these developments.

The Complexity of Copying Digital Materials: One Example

Often it is in the specifics of an example that the complexities of intellectual property law are most evident. To that end, we ask you to imagine that we—Heidi and Jim—are technical communicators working for a software company. We have been asked by our employer to study other companies' user help forums and help-related social networking sites to determine

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how users and technical developers communicate with each other in these forums.

We start our research project by collecting samples and reviewing different models of user help forums. One site we study is Adobe Support Forums (<http://forums.adobe.com/index.jspa>), in particular the Adobe Dreamweaver forums. For an example of the type of discussion we study, see the thread on “I need different type size to appear on the same line” (<http://forums.adobe.com/thread/520240?start=0>).

Our main research purpose for examining these sites is to determine how quickly and how accurately users requesting assistance received helpful answers to their questions. In short, do these online user forums actually work? And which models for online user help seem to work best? The goal for our research is to develop a better understanding of how social networking sites can provide user help and to recommend a model for such a site for our own company. At first our research will be presented at company meetings and in short internal reports, so the copying we do for this research will not be distributed publicly. But eventually we plan to distribute copied material more widely in conference presentations and perhaps even in research publications, because the company wishes to establish itself as a knowledgeable leader in the area of social networking and user help.

Can we, ethically and legally, use information from these forums? We have to begin by defining “use.” If we mean read-only (even if we are, technically speaking, downloading a copy of the forum to our local machine), then we are not reproducing or redistributing the information in any way that would cause a problem for intellectual property. Our “copying” is simply downloading for personal use, information, and knowledge—and such a use of publicly available information is highly protected under fair use/fair dealing provisions in all jurisdictions that we can imagine. If, however, our use of the information involves downloading and redistribution of the material to other readers for other purposes, that act of distributing copies pushes us into another level of consideration:

- What type of information are we copying (images vs. text)?
- What quantity of material are we copying (generic use vs. specific quoting vs. graphical capture)?

- For what purposes are we reproducing this material (commercial vs. noncommercial)?
- How are we distributing this copied material (how widely and by what means)?

The information on these user forums is publicly available on the Web, meaning that, even though we have not registered as Adobe forum users, we can access this page. But on the forum page itself, we do not see any statement about use, so we turn to the Terms of Use agreement.

Reading far into this agreement, we find this prohibition:

You are agreeing NOT to reproduce, sell, trade, resell or exploit for any commercial purpose, any portion of the Site, the Services or any Materials, use of any Service or Materials, or access to any Service or Materials. (Section 6, User Conduct, Subsection #19)

By quoting from an individual user’s post in this forum in the work for hire we are producing for our company, are we (a) violating that person’s copyright or (b) violating Adobe’s copyright? If the individuals have posted from countries around the world, as many in the Adobe help forums do, which countries’ copyright law applies? The law of the individual post writer’s country? U.S. law, because Adobe is a U.S. corporation? The law of the country where our corporation is based? The law of the country where we seek to present and publish our work?

As we hope is clear in this brief example of intellectual property, researchers face complicated and constantly changing laws, ethics, customs, international standards, and political stances toward the use of information. Somehow, researchers have to make some procedural sense out of this complexity—or at least enough sense to make prudent legal decisions about their research. So, rather than supplying specific answers to the questions in our hypothetical example (answers that would vary depending on the material being copied, the context of use, and the countries and technologies involved), we will provide a heuristic for researchers to reflect on the intellectual property implications of their copying activity.

A Copyright Model for Researchers: Questions to Consider

1. Identification of the material
 - *Copying activity*: What materials will be copied for this research project?
 - *Authorship*: Who is the author? Or, if the work was created collaboratively, who are the authors?
 - *Ownership*: Who is the copyright owner or owners?
 - *Laws and regulations*: What legal jurisdiction applies to this material?
 - *Explicit licensing*: What usage license, if any, is operative? In other words, what are the explicit directives and wishes of the author(s) and copyright owner(s)?
 - *Implicit expectations*: What are the implied expectations for copying and redistribution of this material—for the author, the copyright owner, the community at large? Cultural attitudes, customs, mores.
2. Use of the material
 - *Purposes and venues*: Why are you (the researcher) copying this material? For what particular use(s)? Are you copying for your own personal use as a researcher (e.g., to read an article)? Are you planning to distribute portions of this material in publications or presentations?
 - *Commercial implications*: To what extent is your use a nonprofit educational use versus a commercial use? To what extent might your use impinge on the future marketability of this material?
 - *Substantiality*: How much of this material are you copying?
3. Potential infringements and harms of using material
 - *Infringement of IP rights*: What are the potential harms to research subjects, authors, content creators, individuals, or communities of the use of this material?
 - *Liability to researchers*: What are the potential harms to the researcher working as an

individual or on a team? What are the potential harms to the research community and to the potential for future research?

4. Overall ethical and legal decision
 - *Justification*: Given the answers to the questions above, is your copying of the material justified—for the research process, for presentation, for publication?
 - *Permission*: Should you request permission to copy this material?
 - *Attribution*: How should you credit authorship and/or ownership of this material?

What we have done in this heuristic is transform the fundamentals of many countries' copyright laws and several international treaties into a set of exploratory prompts leading to a key legal and ethical decision: Should a researcher copy certain material and, if so, how?

An important aspect of this heuristic is gathering information and perspectives. In this endeavor, technical communicators would be wise to talk through these issues with colleagues (especially legal advisors, if the company employs a legal team); with fellow technical communicators (in national and international venues); and with the persons/corporations whose communications are being studied.

Conclusion: Strategies for Conducting Global Internet Research

We have described some of the complexities technical communication researchers face in navigating laws, regulations, and government practices. Abiding by legal and regulatory mandates while at the same time proceeding ethically with research can be difficult, especially with the myriad regulations and laws researchers face as a result of the increasingly global nature of their work. Conducting ethical research usually, but not always, involves abiding by a specific country's laws, but legal and regulatory considerations are only one part of being ethical. As we hope is clear in our discussion, "the law" is a messy, moving target, constantly in a state of flux, open to various interpretations in different jurisdictions, and typically

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not up to date with regard to emerging technologies. For these reasons, technical communicators who are conducting Internet research need to stay informed about legal and policy developments, government and institutional regulations, and the like. At the same time, they need to be wary of viewing any laws and regulations as providing definitive answers to ethical questions.

We offer the following recommendations for technical communication researchers to consider as they seek to conduct global Internet research.

- **Be informed about laws and regulations:**

Whether research occurs solely within one country or across many countries, it is essential that technical communicators consider appropriate and applicable laws. Consulting with company legal experts, if available, is recommended, as is communicating with other researchers who have conducted similar studies. Building from precedent, where available, can be helpful.

- **Be informed of customs and cultural practices:**

Understandings of privacy of communications or ownership of texts are culturally influenced. Technical communicators should try to understand as much as possible the cultural expectations of the persons whose communications they are studying. In addition to reading relevant published work, holding focus groups or in-depth conversations with focal participants and key informants can be helpful.

- **Be adaptable and flexible with research design:**

As any researcher knows, the best-laid plans often go awry. This is perhaps even more true in conducting global research, where the number of factors to consider increases exponentially. From oppressive (and even dangerous) regimes to diverse social customs, the technical communication researcher needs to adapt his or her research to balance competing needs. The researcher also might need to be prepared to abandon a project if the situation becomes too dangerous for the researcher or the people whose communications are being studied.

- **Be able to explain and justify research to diverse audiences:** A great deal of technical

communication research involves cutting-edge digital technologies and communications that often outpace the ability of institutions and countries' legal and regulatory bodies to address them. For this reason, technical communicators need to be prepared to explain and justify their research to diverse audiences, especially nonexpert audiences.

- **Be comfortable with uncertainty:** Laws, regulations, and cultural customs are constantly in flux, and even the most informed researcher will never have all the necessary information, especially when he or she is researching across borders.

Ultimately, technical communicators will need to exercise their own informed critical judgment, based on an in-depth understanding of relevant legal, legislative, and regulatory frameworks and on the circumstances and details of their own research contexts, as well as the cultural expectations and customs of the people and communities being studied.

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Consuming Digital Rights: Mapping the Artifacts of Entertainment

Liza Potts

Abstract

Purpose: The case studies in this article look at user experience issues surrounding authorized and unauthorized media distribution, describing how researchers and practitioners can trace these experiences to learn how to empower social media participants rather than criminalize them.

Method: By using Actor Network Theory (ANT) to look specifically at instances involving digital rights management (DRM) issues in the United States and the European Union, we can discover how content distribution is as much an issue of protecting intellectual property as it is a critical concern for usability.

Results: Amazon's response to the removal of Orwell's books, Hulu's expiration of content, and Pandora's copyright restrictions cause numerous issues for consumers attempting to access this content legally.

Conclusion: As communicators, legal experts, and international policy contributors, it is imperative that we design for these experiences, rather than over and around them. Looking across these networks—documenting what technologies, organizations, and people are involved—we can create a better map of what is or will be affected by any further implementation of law or technology. By participating in spaces typically thought of as the realm of legal scholars, policy makers, and lawyers, technical communicators can be stronger user advocates for the participants of these systems.

Keywords: social media, experience design, usability, digital rights management, international communication

Practitioner's Takeaway

- Removing content from hardware without prior notice to or consent from consumers breaks the brick-and-mortar metaphor for user experience, leading to mistrust and legal actions.
- While many viewers seek legal methods for screening television and film content online through services such as Hulu and Netflix, the availability of this content can have the unfortunate effect of driving viewers underground to find illegal material.
- Because copyright laws are based on geographic location rather than citizenship, using Pandora in Europe is impossible for U.S. citizens.
- Mapping the network of people, organizations, and technologies helps clarify user experience goals for the product team.

Introduction

Pinpointing instances of information exchange, knowledge diffusion, and community building can inform legal scholars and technical communicators about the social, political, and economic issues affecting these situations. Locating such moments allows us to map out the networks of technologies and people involved in these exchanges. As technical communicators, we must understand these situations more fully if we are to improve the design of communication systems and influence business innovation. It is critically important for technical communicators to examine the relationships and connections between the primary participants and the people and technologies that surround them so that they can build interactions, systems, and procedures that allow for usable digital rights management (DRM) systems. Such active observations and interactions allow scholars to uncover problems relating to legal issues and to help practitioners create tools (including media-sharing Web sites, content management systems, and social media ecosystems) that can support the needs of their participants. In these DRM cases, they can also point to issues of communication, innovation, and distribution. The approach discussed in this paper can help technical communicators address these complex legal issues.

This article describes an application of Actor Network Theory (ANT) as a method for diagramming the active people, organizations, activities, and technologies relevant to the user experience concerns surrounding DRM issues. By exploring various issues from the perspective of consumers, researchers and practitioners can show how information within these networks flows through various actors—both as a way of illustrating distribution and use and as a call for more user-centered innovations. These actor networks are of particular importance to technical communicators who design the content and can influence the business rules for these systems. This article concludes with recommendations on improving the user experience for consumers trapped within these DRM issues. Such recommendations can be generalized to various information design issues.

By visualizing which actors are involved in a given experience, technical communicators can be better prepared to deliver the appropriate information to their audiences.

Brief Background on Digital Rights and Copyright

DRM is a set of technologies intended to control access to licensed content. Numerous books (Boyle, 2008; Lessig, 2008; Litman, 2006; Logie, 2006; Vaidhyanathan, 2005) and articles (Allen 2008, Arnab & Hutchinson, 2005; Erickson, 2003; Samuelson, 2003), as well as a special edition of *Communications of the ACM* (Mulligan, 2003), have been written about this topic. Coupled with the laws of different countries, DRM issues are affecting organizations such as the Recording Industry Association of America, the Motion Picture Association of America, and the Alliance of Motion Picture and Television Producers. These organizations hope that DRM technologies “will prevent infringement of commercially valuable digital content, including music and movies” (Samuelson, 2003, p. 41).

DRM includes “a range of technologies that give parties varying degrees of control over how digital content and services may be used, including by whom and under what conditions” (Erickson, 2003, p. 35). These technologies include fingerprinting and watermarking. Fingerprinting refers to “finding some distinctive feature of content that is already there,” such as an “echo,” and watermarking is “a subtle thing that’s added to the content as it already was to make it distinctively recognizable,” such as “inserting a subtle echo into a piece of music” (Felten, 2009). Both technologies allow copyright holders to recognize their content. Technologies with DRM attributes include Apple’s iTunes and iPhone, Quicktime, Windows Movie Player, and digital video discs (DVDs). Also at issue are peer-to-peer (P2P) technologies that enable file transfers between individual computers online. The legal concern over these technologies was made infamous by the 2000 case against the United States-based company Napster, as well as the recent case against the Swedish

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company The Pirate Bay. Active locations where these issues are occurring include Hulu, Amazon, and numerous sites where users can download or view content—whether legally through sites such as NBC or illegally through other servers. Although sites such as Hulu and Netflix have the copyright holder's authorization to host and distribute content, YouTube and other third-party sites are rife with illegal content. According to Arnab and Hutchinson (2005, p. 3), "while DRM protected media is often sold as the user 'buying' the digital work, the actual process is more like licensing." It is the confusion over this issue that most affects the user experience, which is complicated by international issues.

Laws regarding DRM vary from country to country. For the focus of the cases later in this article, the laws of the United States and the European Union (EU) are most relevant. The World Intellectual Property Organization (WIPO) is part of the United Nations. In 1996, the WIPO Copyright Treaty (WCT) was signed, requiring member nations to implement laws against circumventing DRM. As part of this requirement, in 1998 the Digital Millennium Copyright Act (DMCA) was passed in the United States. In 2001, the EU adopted the European Directive on Copyright. In some instances, incidents occur when geography and citizenship come into conflict with these DRM laws. In mapping these experiences, the focus is on the perspective of users trapped within these systems. Certainly, mapping can be done from the perspective of the corporations, but that is not the goal of the types of design exercises for technical communicators discussed in this article.

In addition to preparing technical communicators for designing systems, an understanding of DRM and copyright issues can empower us as user advocates. These issues are critical to technical communicators because these laws, policies, and incidents have a direct effect on the experiences we build for our users. In light of recent decisions made by product managers, intellectual property lawyers, and policy makers, our role as advocates for our users is critical if we are to see improved experiences that can transcend nations, systems, and technologies.

Brief Background on Technical Communication and International Issues

To understand the impact of these issues for the field, we must briefly look at research in international and intercultural issues in general and copyright specifically. It is imperative that technical communicators be involved in these design and policy conversations. Regarding the issue of technical communicators working on these interface design issues, Bill Hart-Davidson (2001, p. 146) asked, "Why not us?"—a question that information designers, information architects, and content developers have already successfully answered as they take their places on product development teams. There is a strong, still-evolving movement within the field to focus on these issues. As Michael Albers (2005, p. 271) reflected on the future of the field, "The knowledge required for developing, arranging, and presenting information requires an understanding of the various technologies and tools available and an understanding of how the audience responds to those technologies and tools. Writing is only one element of providing that information; to ignore the other elements is to ensure both our long-term obsolescence and lack of power and respect within the project team and corporation."

Recent moves in technical communication toward redefining our research and assumptions concerning international and intercultural issues have led to an emerging set of research aimed at investigations into "audience, purpose, rhetorical patterns, and document design" (Hayhoe, 2006, 141). Studies examining issues of ethics and intercultural issues (Voss & Flammia, 2007) give insight into the difficulties of navigating cultural differences in writing. Studies addressing issues of design give insights into localization (St. Amant, 2005) and internationalization (Zahedi, Van Pelt, & Song, 2001). Arguments for writing material in the context of the culture within which it will be used (Wang & Wang, 2009) are important for understanding how to design for your users. In the case of laws, policies, and interfaces for technology, such an understanding is critical.

In conducting international research, Thatcher (2001) stated, "For intercultural researchers to validly compare two or more cultures, they must focus on the more generalized patterns in each culture, which

does not permit a close-up, ethnographic analysis of the differences in each culture." The diagramming outlined in the next section seeks to mark these generalized patterns for technical communicators to develop appropriate communication tools for these scenarios and for legal scholars to respond to these issues.

As digital content moves across nations and cultures, user experiences are coming into conflict with various laws and regulations. Mounting concerns over how consumers should experience content are shifting traditional notions of content distribution and intercultural use. Overlaps and issues between culture and communication, copyright and DRM are issues that technical communicators must be aware of to work effectively in today's global context of online interaction. Copyright holders, eager to see profits from the content they have produced, are being met by consumers who expect content to be delivered to them in immediate, context-aware ways. Technical communicators must understand the intersections between laws and expectations if they are to influence the design of these systems and policies.

Diagramming and Actor Network Theory

Diagramming system behavior and use is a critical step in the software development process. Depending on the team member's role and the product's state, a number of specific formats and templates exist to communicate design choices and system actions across development teams. It is also useful for legal scholars to understand how these systems operate so that they will know what kinds of intellectual property issues are in question within a given scenario.

For technical communicators, this diagramming approach is a central technique for usability studies. By mapping the use of these systems, we can locate missing steps and features, as well as test the logic of these processes. Such walk-throughs on paper help us discover issues before we invest in building technologies. Transferring the concepts of mapping for usability to

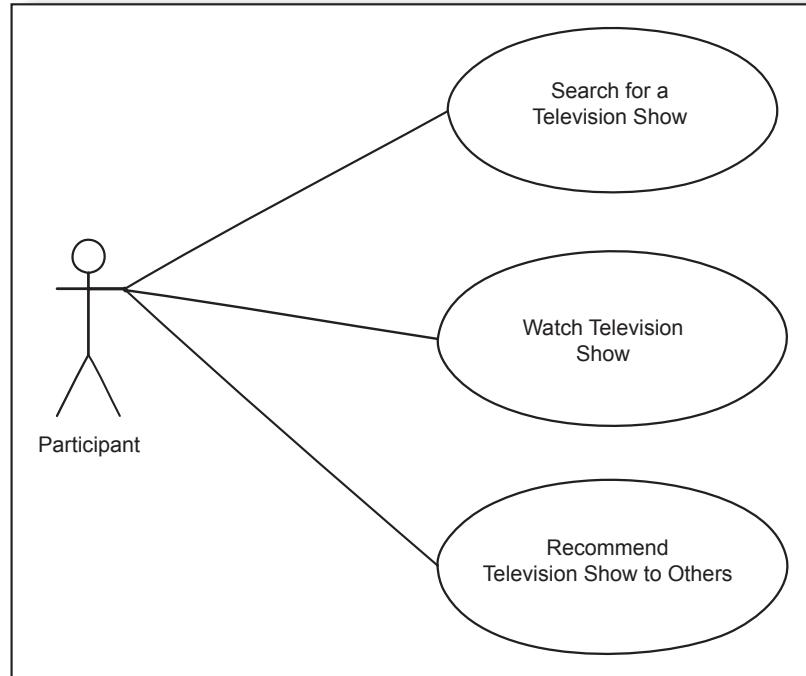


Figure 1. UML Use Case diagram for Hulu participants

more general technical communication practices can benefit our work. Mapping the macroscopic issues within these participatory experiences can help us visualize intercultural collisions, communication misfires, and policy issues. In doing so, we are better prepared to help influence the development of these systems and policies to benefit our users.

One of the methods most often used for diagramming software design is the Unified Modeling Language (UML). UML diagrams such as the Use Case diagram illustrate possible operations that a system could support (Figure 1). Such a diagram maps what tasks a person could attempt within a given system, taking a macroscopic view of the activities that the system must support. These diagrams are useful when the product team is discussing the overall experience design of a given system or service.

Another UML format, the Activity diagram, lists a user's workflow through a single task (Figure 2). While Use Case diagrams pinpoint the major scenarios that the system must support, Activity diagrams are flowcharts that pinpoint the systematic actions that users will take to interact with a system (Fowler, 2003). In this map, a specific scenario is captured to describe

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what activities must occur as the participant completes the task. Technical communicators can use this UML diagram to describe how users will accomplish their tasks within specific activity flows.

Software engineers also use UML Sequence diagrams to consider what processes and objects a system must support, often simultaneously, while different tasks are conducted within the system (Figure 3). In this diagram, the activities taking place within the system are documented to capture what kinds of information will be exchanged behind the scenes between the technologies involved. While there may be some mention of user behavior (in this instance, “Add Comment” and “Submit”), these diagrams focus

on system responses (ACK, meaning that the system acknowledges the user’s “Submit” action). These diagrams are typically meant for the development team, although technical communicators can also use them to describe activities that require some user interaction.

UML diagrams are useful when considering design interfaces and technologies. These diagrams are excellent for showing systems, states, and task processes related to these systems and states. UML is not intended to be a way to understand an entire ecosystem of actors participating in ordinary activities. It is even less capable of capturing the rapid communication at play among social entertainment participants. However, it is critical for designers to know what people, organizations, and technologies are active within these networks if they are to develop systems that meet the needs of both business and user.

Diagramming is a key activity within the information design cycle. It is critical that the entire product team be aware of the major people, organizations, technologies, events, and so forth before any design work begins. Activities such as contextual inquiry, field studies, and surveys can shed light on a product’s audience and context. After those activities, diagramming must begin—and it must happen before any serious design activities: before designing any UML diagrams, before any wireframing, before writing any documentation, before building a marketing campaign, before deciding on a policy. It is only after visualizing the actors, context, and relationships within these spaces can we begin to design communication tools. Currently, no major system allows us to create such visualizations before moving on to more traditional diagramming methods.

ANT can help fill this void. ANT positions technology and people as equal agents of action and refers to them as actors. Described in more detail in Callon (1986), Latour (1996), Law (1992), and Mol and Law (1994), much of the work on ANT restricts the term *actor* to humans and technologies, but extending the term to encompass organizations and processes that associate with these actors

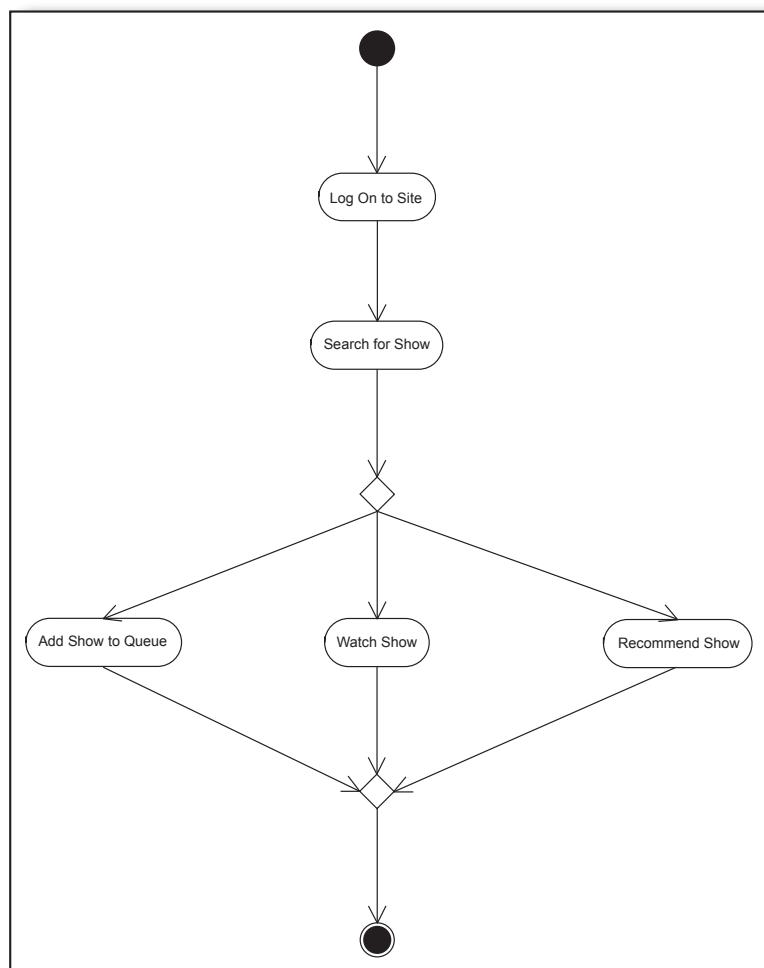


Figure 2. UML Activity diagram illustrating activities and decisions of Hulu participants

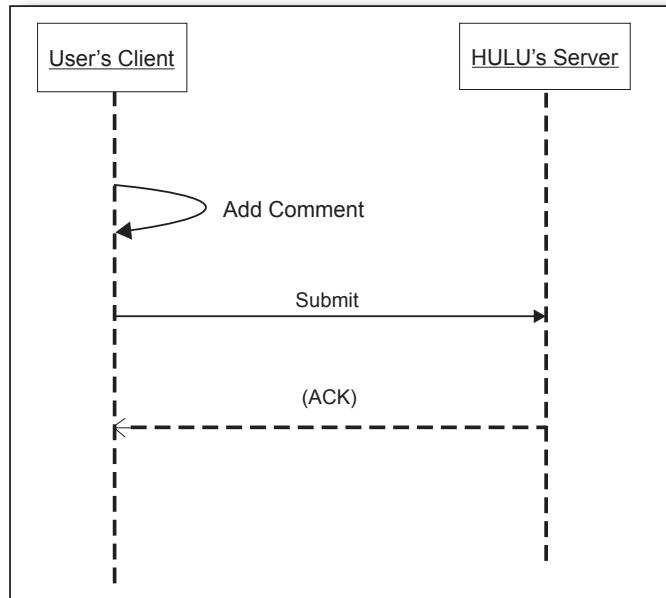


Figure 3. UML Sequence diagram illustrating system processes for Hulu's server and the participant's client machines

is imperative. This can be especially useful when examining issues that extend across multiple, global systems, such as legal issues. Viewing these actors equally can help us consider whether our business processes and systems are useful for their actual audiences as well as their intended audiences.

In practice, it is important not to exaggerate these relationships. For example, it is a realistic assumption that humans have more agency than their cell phones. By examining issues through this lens, we can focus more closely on the interactions taking place within these user experiences. Considering technologies as important members of the network allows us to build solutions that take these tools into account. This move toward using ANT to research issues in technical communication follows the recent innovations by scholars looking at similar issues of technologies, networks, and participants (McNely, 2009; Potts, 2008, 2009a, 2009b; Spinuzzi, 2008; Swarts, 2009).

To understand DRM legal issues, it is critical that we can find the key actors within these networks. We can then trace their activity as they move throughout the network. For example, by observing how participants consume digital content, we can

learn which technologies are useful, which people are directing the participant activities, and which organizations are involved. Without tracing these actors and pinpointing their activities, we would be left only with metrics showing that these actors came and went, rather than telling us how these associations were made and how they looked across an entire ecosystem of technologies, people, and organizations.

Combining ANT with more traditional technical communication methodologies will help researchers wishing to explore legal issues in more detail to trace real-world scenarios. With such knowledge, technical communicators are better prepared to aid in the design of software, processes, and policies to support realistic, user-centered experiences. Diagramming the people, places, organizations, events, and technologies can empower design teams to know their audience's context, relationships, and distribution before they attempt to create innovations. These diagrams can help teams reach common ground more quickly, sharing the visualization and discussing the implications on their proposed product designs, policies, and services.

Mapping with Actor Network Theory

The reasoning behind extending ANT and developing a mapping tool was to encourage awareness of these actors among software developers and designers. By considering the technologies, Web sites, users, and organizations involved in each scenario, these practitioners would be better equipped to build for these experiences (Potts 2008). While diagramming methods such as UML focused primarily on the process flows and system states for specific tasks and technologies (Fowler, 2003), these initial ANT attempts called on development teams to think globally about designing experiences not bound to a single system. UML methods tend to focus on a single user at a time, following as the user uses a single system to complete an individual task. In working through these maps over several projects, ANT mapping has proven useful in extending the view of networks to the many technologies, people, and organizations that extend the traditional boundaries of user experience (Potts, 2009a, 2009b).

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As we examine specific artifacts with ANT as our framework, it is valuable to note three stages of mapping: actor networks; people, places, and things; and temporal relationships (Potts, 2008).

Adding Nouns

ANT diagrams are powerful: They can reveal people, organizations, technologies, places, and events that affect specific actor artifacts. By pointing to these specific artifacts, referred to as central actors, we can visualize these ecosystems. By doing so, we are more likely make more informed decisions concerning how we design for these artifacts. Such design work ranges from the most basic of interaction choices to more complex legal decisions.

At this stage, the goal is to locate the artifact that is at the center of activity. A basic diagram of lines and circles begins the brainstorming session (Figure 4). In Figure 4, we are mapping a central actor within an experience that would not exist were it not for the other actors within this diagram. After deciding on the central actor, the next step is to list all active actors. Active actors include any and all technologies,

people, organizations, events, and any other human or nonhuman actors that must be present for the central actor to exist. Obviously, the detail of these diagrams can become incredibly microscopic—listing minutiae such as Internet connections, power cables, and so forth—which is why it is critical to focus on the concept of activity in defining these actors.

These diagrams begin to sketch the ecosystem in which the artifact exists. By documenting these nouns, the team can begin to see who or what any new interfaces, processes, or systems will affect. Understanding these ecosystems is critical to designing these experiences. Visualizing the people, organizations, and technologies involved in these experiences will help interdisciplinary teams share a common understanding about the context in which the user will approach these experiences. Such understandings are critical for the development of user-centered experiences.

Creating Noun Stencils

For the next stage, it is important to begin labeling these nouns by using unique stencils recognizable to whoever will be examining and using these diagrams.

It is critical “to distinguish the actors by noun categories (people, places, things) pertinent to the community of practice for which developers are designing the system” (Potts, 2008, p. 3).

These diagrams also visualize shifts in cultural practice. Such mapping extends ANT’s vision of distributed agency, allowing designers, legal experts, and policy makers to view the actors. Within these visualizations, we can begin to discuss the design of systems, processes, and policies to support human work in a given scenario: “By listing the actors, we gain a sense of who will be interacting and what their motivations might be with regards to their use of these systems” (Potts, 2009b).

Figure 5 shows that many active actors come into play for any given artifact. In this diagram, the central actor is linked to various actors such as people, places, events, technologies, and groups that are present because they directly affect the central actor; without these supporting

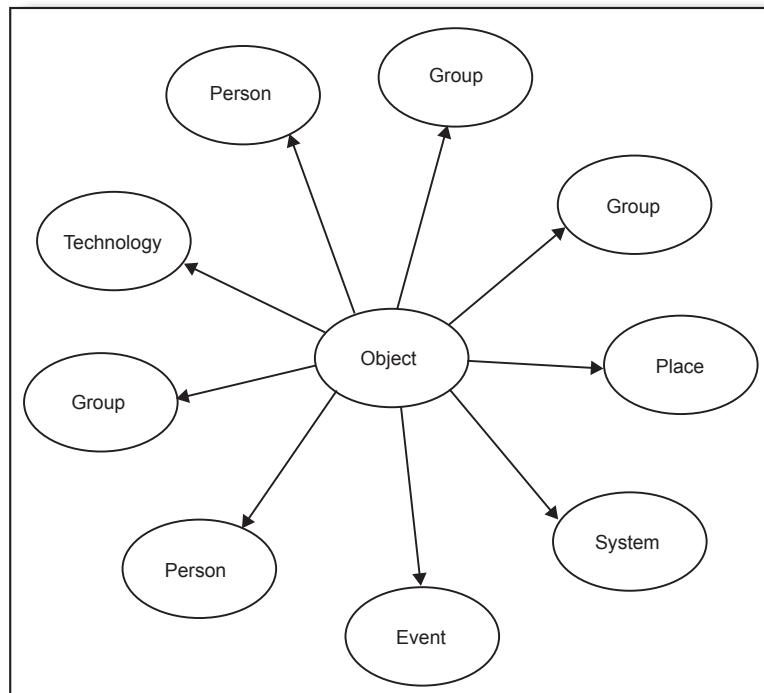


Figure 4. Basic Actor Network diagram lists all of the actors (nouns).

actors, the central artifact could not exist. By finding patterns across these actors, technical communicators can create stencils to communicate associations. For example, the pattern of groups can help describe organizations and differentiate them from individuals of importance within the ecosystem. Note that human and nonhuman actors are listed in this diagram, pointing to the sociotechnical network in which these artifacts reside. Such an understanding is critical to mapping out the needs of actors within these systems. Doing so allows us to ask questions such as what ecologies these actors can leverage and what groups have a stake in these artifacts.

The stencils in Figure 5 are not comprehensive; different situations will require the use of different sorts of stencils. These maps are created to allow us to “begin to understand what sort of structures must be in place to allow for the mediation of information across these systems” (Potts, 2009a). Creating a common understanding of these networks is key; ANT maps are meant as a starting point for these conversations. For technical communicators, this process is important because of our role as user advocates.

Showing Noun Relationships

Once your nouns are visualized and patterns emerge, another way to extend these diagrams is by visualizing shifts in practice. These shifts can be cataloged from a number of different perspectives: strength of ties, length of time, history of use, and so forth.

When examining the use of social software, technical communicators can choose to measure the strength of relationships relative to time (Potts, 2008). If actors spend a lot of time exchanging information, then the lines connecting the actors would be thicker. If the relationships seem more critical due to these information flows, then those lines would also be thicker. The less time and importance, the thinner the lines.

A valuable use of these lines is to show relationships between actors across geography (see Figure 6). Tracing these associations makes

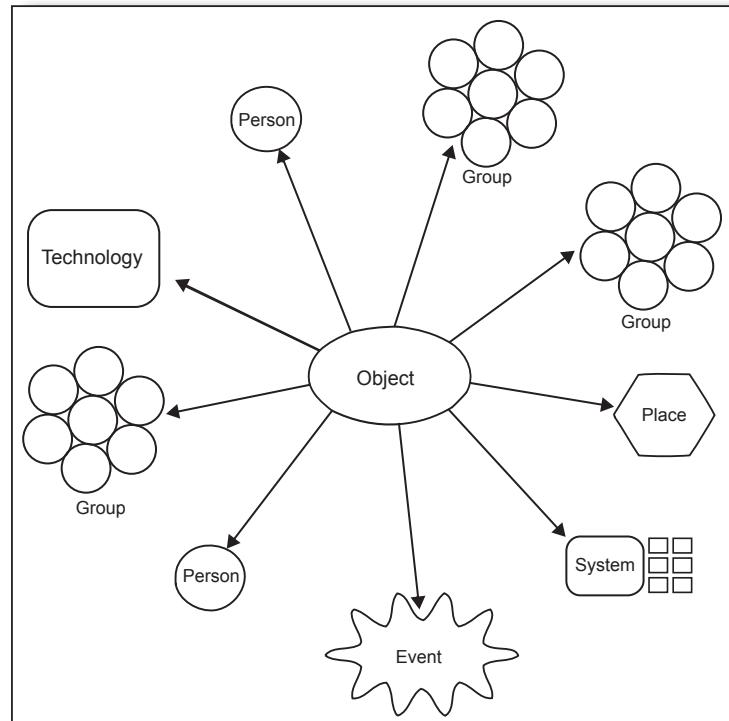


Figure 5. Stencils are created to visually describe the actors.

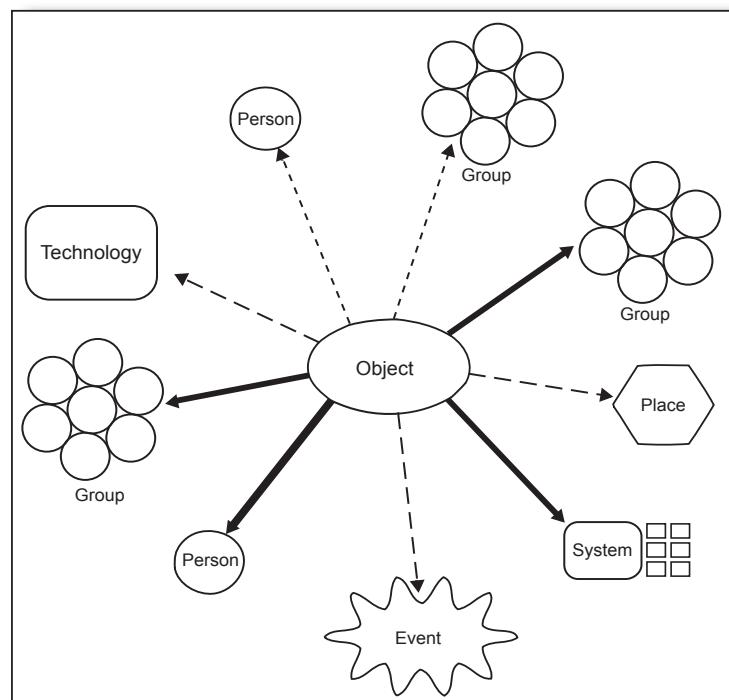


Figure 6. Lines are used to describe relationships between the actors and the central artifact.

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visible the connections actors make across these ecosystems. Examining issues in relation to the timeline or importance of relationships can show policy makers, systems designers, and lawyers how information flows across actor networks so that they can design systems, processes, and laws to mediate these experiences appropriately. Understanding these relationships helps technical communicators be better user advocates. Mapping helps us visualize the context within which these interactions will take place, providing common ground for discussions across project and product teams. The remaining sections of this article present cases that reveal how technical communicators can use the ANT approach to mapping activities to interact more effectively in global contexts.

Cases

In the beginning of his article “When Cultures and Computers Collide,” Kirk St. Amant (2002) states that “researchers in both intercultural communicating and in computer-mediated communication (CMC) need to adopt new research agendas that focus on the nature of intercultural communication practices in CMC environments.” In part, he is talking about issues of contention across different academic disciplines. The areas of contention within the following cases stretch across technical communication, legal studies, and corporate decision-making.

There are myriad perspectives one could take to map these experiences. One could map the concepts surrounding these cases, such as uses of DRM, related corporations such as the Recording Industry Association of America, legal cases that are considered critical to intellectual property issues, and so forth. Another perspective would be to map the cases themselves, noting which people, technologies, and locations are involved. In taking this microlevel approach to these cases, the goal is to shed light on specific examples that engage technical communicators, developers, designers, and those in the legal profession.

In the following section, a number of issues facing these actors are outlined, and ways in which these maps can lead to a shared understanding of these experiences are explored. By visualizing these concerns, we can

be better prepared to inform stakeholders who can aid in the improvement of these systems, processes, and regulations. In Jo Allen’s 1990 article, “The Case Against Defining Technical Writing,” she discusses the disqualification of certain forms of technical communication based on genre. She argues, “No definition will adequately describe what we do” (Allen, 1990, p. 76). In that spirit, the cases below represent another location where technical communication—in this case, the kinds found in the entertainment industry—represent a different genre than is traditionally thought of as “technical communication.” Certainly, discussions of technology and how we create user experiences to communicate the legal status, user experiences, and research designs of these systems is at the core of technical communication.

In looking at Amazon’s Kindle product, we can trace issues of DRM and DMCA that affect consumers internationally. Accessing video content through media such as video streaming on Hulu, physical DVDs on players, and BitTorrent P2P file-sharing systems brings up international concerns with regard to laws, policies, and experiences—concerns also seen with Pandora. In all of these cases, we see the resurrection of what Lawrence Lessig refers to in his book *The Future of Ideas* as the need for balance between the interests of copyright holders, new technologies, and consumers. Referring to Congress siding with record labels, Lessig stated, “We find that balance by looking for balance—not by giving copyright interests a veto over how new technologies will develop. We discover what best serves both interests by allowing experimentation and alternatives” (Lessig, 2002, p. 202).

As Samuelson (2003, p. 41) states, “The main purpose of DRM is not to prevent copyright infringement but to change consumer expectations about what they are entitled to do with digital content.” Many of these attempts to change expectations have faltered because consumers do not find them user-friendly. By examining how such legal issues affect user experiences, technical communicators can trace how these innovations clash with the entertainment practices of everyday users and take part in the legal issues surrounding these cases by examining them and using our research to aid in the design of more user-centered experiences.

DRM has a “history of frustrating consumers with compatibility problems, unreasonable restrictions on how legally acquired digital media can be consumed” (Allen, 2008, p. 5). The EU acknowledges the legal issues across nations, a consideration for companies and systems such as Amazon, Hulu, and Pandora, by stating, “These differences could create potential obstacles to the free flow of information and additional burdens for economic operators and citizens” (European Union Commission, n.d., p. 3).

How can we make these experiences more user-centered and less cumbersome? The current implementations, while making great inroads in the distribution of content, still suffer from issues of usability, timing, and sharing. As Latour (2005, p. 23) notes, “The task of defining and ordering the social should be left to the actors themselves.” In that spirit, we should focus on usability issues, tracing them through the people, Web sites, corporations, and technologies riddled with clumsy user interfaces and saddled with DRM pressures that threaten these experiences.

Mapping Experiences of Digital Reading

Amazon’s Kindle is billed as a “wireless reading device” that is “as thin as most magazines” and “lighter than a typical paperback” (Amazon, 2009). Amazon states that it has more than 350,000 items available for access through the Kindle, including books, magazines, newspapers, and blogs. Users can also annotate this content, allowing them to interact with the texts through bookmarks, highlights, and clippings.

Through the Kindle’s Whispernet technology, Kindle owners can download books or files. This case study looks at the issue of downloaded content, specifically examining how this technology also permits Amazon to remove downloaded content, a hotly contested issue for consumers and privacy advocates.

Kindle owners can download their content through traditional wireless networks or through Amazon’s Whispernet technology. At 10.2 ounces with wireless

connectivity, Whispernet encourages portability. The newest Kindle model provides access to Whispernet internationally, with shipping available to more than 100 countries (Amazon, 2009). Coverage is available across many parts of the world, with faster 3G coverage concentrated primarily in Western Europe, Israel, Dubai, and South Korea (Cellmaps, 2009). Additional smaller concentrations are in South Africa, Japan, India, and Australia. Although there are additional international service fees for U.S. customers, service is available to consumers who travel abroad.

In summer 2009, Amazon deleted Kindle content after discovering that the third-party publishers did not own the license to sell the content. Arnab and Hutchinson (2005, p. 1) have noted that “DRM does not actually implement the fundamentals of copyright law, and is rather a mechanism for enforcing license and contract restrictions on digital data.” In this case, that enforcement meant remotely deleting content without warning. A basic diagram of this artifact can be seen in Figure 7. This map depicts numerous relationships: stencils indicating relationships between actor types and lines representing strength between the central actor and the supporting actors. The strongest relationships

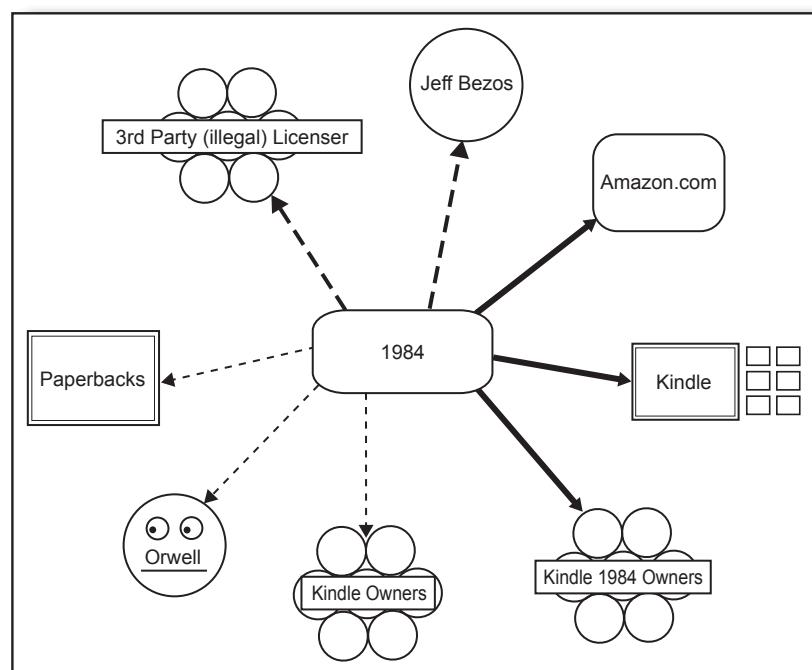


Figure 7. Current artifact experience for Kindle consumers

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are between *1984*, Amazon.com, the Kindle device, and users who own Kindles and *1984*.

While Amazon did issue refunds to the affected consumers, the company did not communicate the deletion to them until after the content was removed through Whispernet. In particular, the removal of two George Orwell texts, *1984* and *Animal Farm*, that drew the community's ire. Users began posting to the Kindle community forum on Amazon and elsewhere (Kindle Community, 2009).

Some of these users speculated that the removal of Orwell's works was simply some sort of prank, alluding to the books' topics of governmental control, lack of freedom, and dearth of privacy. One user noted, "Sounds ironically like Big Brother is monitoring our Kindle content" (D. Parry, 2009). Another comment left on a technology-related blog noted that "if Amazon can delete books from your Kindle, presumably they can also replace those books with altered versions—to correct mistakes, delete defamatory remarks, bowdlerize naughty bits or even change an author's arguments if they or their corporate friends didn't agree with it. And you would never know" (Wetcoast, 2009).

One user posted, "I wonder if Amazon will send representatives to customers' houses to retrieve dead tree copies? Orwell fans, lock your doors!" (Caffeine Queen, 2009). The allusion to physical space was noted numerous times in this forum, with one user stating, "It's like having Barnes & Noble sell you a book, charge your Visa and then 3 months later change their mind, credit your card and DEMAND their book be returned" (Ron in Richmond, 2009). This comparison between physical and virtual spaces is of interest because "enforcement of copyright law has always been passive in the physical world" (Arnab & Hutchinson, 2005, p. 1). An even stronger statement by one user relates feelings of violation and theft of content by Amazon:

This happened to me too. What ticked me off is that I got a refund out of the blue and my book just disappeared out of my archive. I emailed Amazon for an answer as to what was going on and they said there was a "problem" with the book, nothing

more specific. I'm sorry, when you delete my private property—refund or not—without my permission, I expect a better explanation than that. (Sunny Lady, 2009).

These comments allude to consumer confusion and outrage over current DRM practices. The same consumer added, "I liken it to a B&N clerk coming to my house when I'm not home, taking a book I bought from them from my bookshelf and leaving cash in its place. It's a violation of my property and this is a perfect example of why people (rightly) hate DRM" (Sunny Lady, 2009). Here, the notion of theft is confounded further by the actual use of these systems, as consumers are not purchasing a product—they are purchasing a license.

As one researcher noted, "These technologies are not really about the management of digital 'rights' but rather about management of certain 'permissions' to do X, Y, or Z with digital information" (Samuelson, 2003, p. 42). In this case, the permission was to remove content from consumers' Kindles. However, that permission was not made explicit in the Kindle's terms of service.

On July 30, 2009, a class action suit was filed in the Western District of Washington (Case No. 2:2009cv01084) in response to these removals. This case, *Gawronski v. Amazon.com, Inc.*, was settled on September 25, 2009, providing compensation to the customers and mandating that Amazon adhere to its terms of service.

On September 3, 2009, Amazon offered to restore the deleted content. Having secured the content licenses, the company was able to give customers legal copies of these works. In an apology posted to Amazon's Kindle community forums, CEO Jeff Bezos called the handling of this event "stupid," mentioning the criticisms the company received from consumers and consumer advocates:

This is an apology for the way we previously handled illegally sold copies of *1984* and other novels on Kindle. Our "solution" to the problem was stupid, thoughtless, and painfully out of line with our principles. It is wholly self-inflicted, and we deserve the criticism we've received. We will use the scar tissue from this painful mistake to help

make better decisions going forward, ones that match our mission. (Bezos, 2009).

While clearly these user experiences are broken, it is unclear how Amazon hopes to balance user expectations with content-licensing issues. As one poster to a technology blog noted, “This is why DRM is bad, kids” (Anonymous, 2009). The community hopes that such moves would include ensuring that any content sold through Amazon was licensed content (Sunny Lady, 2009). While Amazon’s business rule might be to sell only content that has secured the appropriate license, it certainly was not the business practice in this case. Another point made was the need to close the Whispernet backdoor that allows Amazon to delete content (Frauenfelder, 2009). As one researcher has stated, “Policies that are subject to many exemptions or based on conditions that may be indeterminate or external are difficult or impossible to automate with DRM” (Erickson, 2003, p. 36).

A post made on the group blog Boing-Boing, a respected technology blog, noted that such moves by Amazon “will encourage readers to visit Web sites in countries where the copyright has expired on Orwell’s books so they can get free un-stealable electronic copies” (Frauenfelder, 2009). Clearly, this is not a positive review of Amazon’s DRM implementation on the Kindle, and the company and policy makers will need to continue to look toward improvements to ensure that user experiences and content licensers can coexist to match Bezos’s concept of Amazon’s “mission.”

The Orwell incident is already having a global effect. In January 2010, leading French book retailers asked their government to create an eBook hub for publishers and retailers to sell their products (Laurent, 2010). They cited incidents such as the Kindle’s. In Germany, a similar system, named Libreka, is already in place. It is unclear whether location-based systems run by governments are the better alternative, although it is clearly an option being explored in Europe. Further research into the evolution of these systems will be necessary to help shape user experiences.

In this case, mapping would have alerted technical communicators to the users for whom they should be advocating, the technologies as they exist, the organizations affected, the context in which this event

occurred, and the strength of relationships between these actors. While it is doubtful that Amazon intended to alienate, upset, or anger its user base, it is clear that it did not have a strong understanding of how brick-and-mortar retailers would have handled this situation. It also seems clear that Amazon did not make the connection between Orwell, his text, and the situation it created by allowing the purchase of this unlicensed version. Mapping the actors and relationships within their context can illuminate such issues so that technical communicators can advocate for their audiences, write better content, and help influence policy.

Mapping Experiences of Viewing Television and Film Online

From DVDs and network television to YouTube and subscription-based content, today’s television viewers are no longer restricted to any one system for viewing these materials. As content has migrated from VHS to DVD to the Web, consumers have a host of options from which to access this content. There are many methods of accessing content legally, but there are also a plethora of illegal access points. As one researcher stated, “With the advent of load sharing peer-to-peer networks like BitTorrent, it is now virtually impossible to stop distribution of digital data on the Internet or to isolate all the sources of reproduction” (Arnab & Hutchinson, 2005, p. 1). In this case study, reasons why these illegal access issues may be occurring are examined through the lens of user experience.

In tracing issues of experience, DVDs present the obvious issue of fragility. A simple Google search for “scratched DVD” returns more than 911,000 results. Consider the use case of a Disney DVD, a DVD player, and a 5-year-old. Scratches happen, and with Disney releasing its content library piecemeal, you have a recipe for every parent’s worst nightmare: a scratched *Sleeping Beauty*. In its defense, Disney is trying to bridge this experience by offering digital media copies along with its physical DVD copies. Describing this new technology, Disney (2009) states, “DisneyFile Digital Copy is the Disney-branded Digital Copy experience, which enables buyers of DVD and Blu-ray to receive the standard definition digital version of the movie in their choice of iTunes or Windows Media formats.”

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However, it is unclear whether such solutions are enough, given current usage statistics. According to a recent Pew report, 89% of Internet users ages 18 to 29 stated that they watch content on video-sharing sites (Madden, 2009). Moreover, the content that viewers want to watch is not always easily accessible. For example, perhaps the user wants to see a long-running television program that is in syndication. While the user's DVR system is set to locate the episodes and tape them, these particular episodes may not be in syndication. Even if they are, it is unlikely that they will be broadcast at the exact entry point every consumer needs. What if the user already viewed season two and now wants to see season three?

An on-demand system is required for viewers to receive the content they want when they want it. Enter the Internet, with sites such as Hulu and YouTube, BitTorrent P2P file-sharing tools, indexing sites such as Pirate Bay, and a myriad of illegal viewing Web sites. Hulu bills itself similarly to Amazon, stating, "Hulu's goal is to provide as much content as possible and to keep it all on our service permanently." The site explains that its content licenses depend on "streaming clearances granted by our content partners" (Hulu, 2010). However, Hulu's content can expire, and it notes this by explaining,

In some cases, an episode or movie may expire from Hulu. Streaming clearances can be limited by any number of legal or business agreements that differ from video to video. An episode or movie may expire due to myriad reasons, including music clearances, impending DVD sales and syndication deals, among others. It's disappointing to us when a video must come down. As videos are the heart of our business, we're always working to continue to

expand streaming clearances.
(Hulu, 2010)

While viewers may want to turn to legal content providers such as Hulu, this issue of expiration can be particularly frustrating, especially for new fans of these programs. About an American television series that ran during the late 1990s and early 2000s, one consumer applauded Hulu's mission: "I missed *Buffy* in its original run, but I am loving the chance to catch up. More seasons please!" (Macabri, 2008).

There are numerous examples of how Hulu is winning new viewers for television programs, but the frustration over issues of expiration and availability are seen as counterproductive by its user base. These concerns become increasingly acute as Hulu's expiration issue comes into effect, as it did for the television show *Buffy the Vampire Slayer* in October 2009 (see Figure 8). This map represents relationships among various people, technologies, hardware, and content owners. The strongest relationships are shown with solid lines between the television show, audience, and distributors of the content.

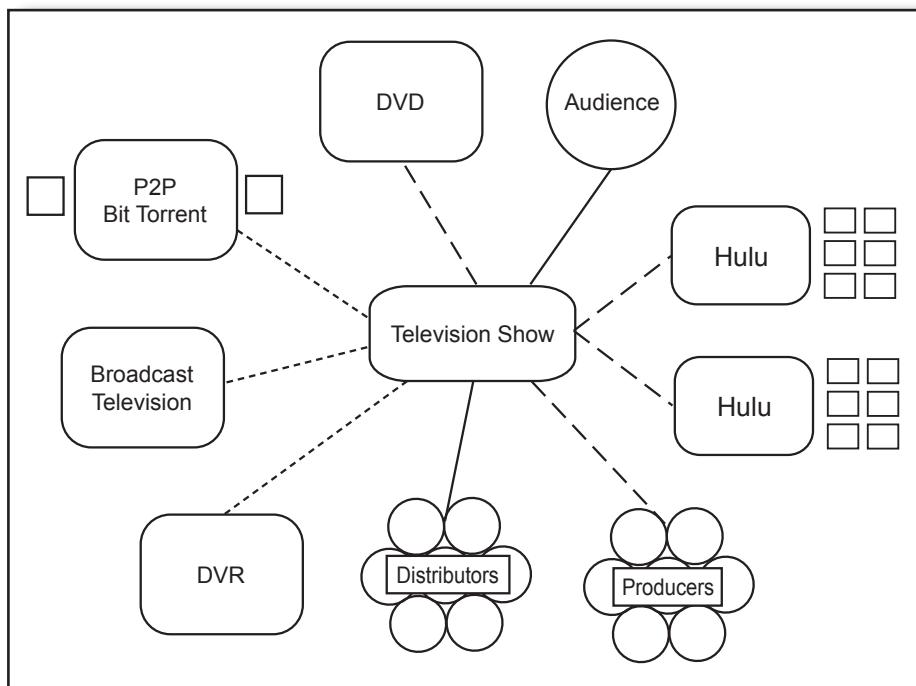


Figure 8. Viewing *Buffy the Vampire Slayer*

One viewer expressed concern in the show's discussion boards on Hulu by stating,

One of the best shows out there!!!! When can we get more??? I was almost done season three!!!! and then they took it off! wonderful acting and actors and of course vampires = one heck of a show! Please put on more seasons including three!!!! I'm desperate to see more! (Pierson, 2009)

The time cost of using Netflix can also be burdensome to many users. Not all of the Netflix library is digital, meaning that consumers still need to rent physical media from the company rather than view streaming content over the Internet. Many television shows distribute their content on DVDs with little concern for user experience, often burning only two episodes per DVD. The task of synchronizing, viewing, and mailing can become tedious at best and extremely frustrating at worst. Juggling syndicated television, Hulu, Netflix, and BitTorrent: Are these the experiences we want for our users? As Gillespie (2006, p. 661) states, "What is really at issue here is not just expertise and innovation, but a broader question of user agency: a software design community that encourages it, a regulatory constraint that forbids it."

While it is possible for these users to seek out other legal content providers such as Netflix, some consumers instead look to illegal Web sites and P2P networks from which they can download and view content. The argument can be made that these systems exist partially because of the lack of a strong user experience where they can access legal content. Hulu cannot keep these licenses indefinitely, and the difficulties of Netflix's distribution may encourage consumers to seek other means to view content. As Lessig (2008, p. 145) stated, "There exists not just the commercial economy, which meters access on the simple metric of price, but also a sharing economy where access to culture is regulated not by price, but by a complex set of social relations."

Mapping could have helped with technical communication activities within this context. Clearly, the thought of an *experience* is being misplaced in favor of individual delivery mechanisms. Users are looking for a single, seamless event in which they can watch content

and participate within it. Maps can bring to light these user needs, illustrating the many ways in which today's mass distribution of content is failing to meet those needs. Questions over how to write content for these sites, how to map activities for them—all of these issues become far more complicated when we examine the actual experiences of users, rather than simply hoping for the best case scenario within a single system such as Hulu or Netflix. It is up to technical communicators to point out these issues, help shape new policies, and be those users' advocates if we are to see improvements in the distribution of this content.

Mapping Experiences of Music Listening in the United States and Europe

The case examines the difficulties in listening to music online, primarily looking at the use of social media and musicians' Web sites as we trace complications for Americans, Europeans, and visitors to Europe. Issues of location and citizenship create a tenuous relationship between the technologies and people involved in these experience networks.

In the United States, there are numerous legal choices for listening to streaming music. One of these systems, Pandora, can be accessed through its Web site (www.pandora.com) and its stand-alone desktop application (Pandora One). The company positions Pandora as a "music discovery service" that uses the "Music Genome Project" to create music experiences that users will enjoy (Pandora, 2010a). The Genome Project uses "complex musical DNA" to build stations based on a particular song, album, artist, or genre chosen by the user. The user can then alter the station selections by voting for the song to stay in the collection (thumbs up) or be excluded (thumbs down).

To register for Pandora, a user must supply a U.S.-based zip code to prove residency; using Pandora is forbidden outside of the United States. In addition to zip codes, geographic location is confirmed via Internet Protocol (IP) addresses. IP addresses are assigned to computer systems based on location.

IP addresses outside of the United States are automatically blocked from accessing Pandora. Instead, IP addresses outside of the country receive a Web page stating that access is not permitted in the country in

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which they are physically located. Because copyright laws are based on geographic location and not citizenship, Americans in Europe who access Pandora's system will be greeted by a message explaining this issue, listing the country in which they are located and their IP address.

However, some users are now circumventing Pandora's system to access music outside the United States. Methods for doing so are listed across several Web sites; a simple Google search will turn up multiple ways to circumvent the system. One method is to spoof the IP address through a proxy server. Spoofing refers to faking the address to mask the identity of the computer. For example, users in Europe can spoof their IP addresses to make it look as if they were located in the United States, allowing them to impersonate a user who is legally able to access Pandora. There are numerous spoofing methods, such as man-in-the-middle, routing redirect, source routing, blind spoofing, and flooding (IBM, 2008). Without going into the technical details, such spoofing is complex enough to require a more sophisticated level of technological expertise than that of the average Internet user. However, the instructions posted on many sites have provided access information for more proficient users, in theory widening the availability of these circumvention methods.

Figure 9 illustrates how Pandora is accessed in the United States and in Portugal, highlighting the use of a proxy server to spoof the system. By accessing these proxy servers, the computer's IP address is masked and replaced with a U.S.-based IP address.

What is critical to note in this diagram is the lack of a human actor; rather than people, we have countries and technologies. Geography trumps citizenship in this user experience. Pandora's international frequently asked questions (FAQ) states that "only the current location of the listener matters for international licensing law—not citizenship, national origin, or country of permanent residence" (Pandora,

2010c). Even payment does not allow the user to circumvent this restriction, as Pandora's FAQ states, "Similarly, source of revenue doesn't matter—only the legal right to play the music in a particular country" (Pandora, 2010c).

While Pandora (2010b) states that they "don't have the resources to pursue music-streaming licensing arrangements in many countries in the immediate future, but we do have the ultimate goal of being able to offer our service globally," it seems that the legal issue of copyright is bumping up against the Genome Project's innovation. With more users, it is more likely that the music Pandora is able to provide will be better targeted because of the participation features to vote on songs within these channels.

This argument returns us to Lessig (2002, 2008), whose work looked to balance the needs of copyright holders with the necessity to innovate technologies. Although this may seem a current impossibility, the idea of binding experiences based on citizenship would alleviate the difficulties encountered during travel. The details of such a solution are far too complicated and

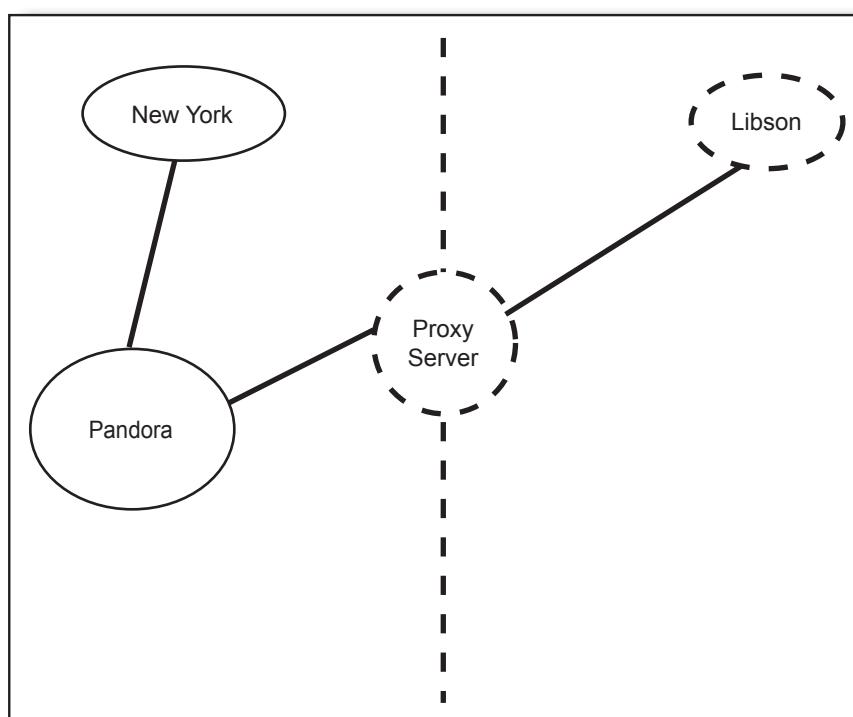


Figure 9. Accessing Pandora across geographic boundaries

involved for this article. However, it is a critical issue for social media users who expect to take their usual experience with them as they travel.

As this case shows, the maps we create can vary in type, size, and distribution. This case was chosen to illustrate the variation that ANT diagramming can support. No specific stencils were chosen to show similarities between nations or to show their dissimilarities in technologies. This move was made to illustrate how users do not necessarily take those issues into consideration when their primary goal is to receive content as they normally would. Such a diagram can help the technical communicator advocate for product improvements, as well as help those involved in these legal issues understand the issues from the user's perspective.

Implementation

By implementing ANT as a way to map these ecosystems, we can “see what users need and want within these current sociotechnical settings” (Potts, 2008b, p. 40). As communicators, legal experts, and international policy contributors, it is imperative that we design for these experiences, rather than over and around them. Looking across these networks, documenting what technologies, organizations, and people are involved, we can create a better map of what is or will be affected by any further implementation of law or technology.

For everyday users, navigating the thorny corners of DRM can be confusing and upsetting. ANT diagrams and their associated stencils are tools by which communicators and scholars can make visible the people and technologies that participate in these activities. In making these communities visible, technical communicators can more readily see the user experience issues. These diagrams can help influence stakeholders in the creation of more effective and efficient communication systems based on use rather than constraints, allowing us to plan for appropriate solutions to the problems affecting the usability of DRM experiences.

Readers new to these processes might wish to begin applying these concepts in the following ways. The

best way to begin ANT maps is by creating them after the team has conducted some form of ethnographic fieldwork—whether a site visit, contextual inquiry, or some form of in-context exercise. For either new or current projects, begin by creating simple ANT diagrams that capture the many people, technologies, organizations, events, and other pertinent actors. Using these as talking points within the product team, technical communicators can begin to educate their peers about the experiences the users will have throughout a system. As the diagramming models mature, using stencils to start showing commonality among different actors can aid in clarifying these maps. As the product team discusses issues of experience, understanding can grow around how relationships between the actors are tenuous, strong, ambivalent, essential, and so forth. Through employing these methods to aid in the discovery of user needs and participatory contexts, technical communicators can help lead these exercises and have greater influence on designs. By participating in spaces typically thought of as the realm of legal scholars, policy makers, and lawyers, technical communicators can be stronger user advocates for the participants of these systems.

Using ANT can help us imagine ways in which the methods and theories we develop in technical communication can transcend our own professional community and be useful for those in other knowledge-making areas, such as the study of law in global contexts. By making such moves, we can continue our long-established tradition as user advocates. As one of our established scholars has stated, “The best judges of the *making* are not the makers but the users” (Dubinsky, 2004, p. 5). Although these areas can be seen as on the borders of our community, these diagramming methods can reminder us that the work we do, and the way we make knowledge, might prove very valuable to others, because we can provide new perspectives on existing issues.

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International Fair Use?

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Abstract

Purpose: The purpose of this article is to examine pertinent issues regarding the need for a fair use structure in international intellectual property agreements.

Method: The issues in this article were examined using a scholarly methodology based on legal research and applied analysis and application to the technical communication field.

Results: The findings are that fair use cannot be employed in international intellectual property treaty development because, to operate, it must retain its necessary connection to the U.S. Constitution's goals and policy.

Conclusion: International intellectual property law treaty development should incorporate humanistic guidelines that accommodate fair use goals based on universal rights.

Keywords: fair use, intellectual property, international law, international humanistic treatment

Practitioner's Takeaway

- The existence or absence of fair use concepts that affect product development in international work venues affects technical communication practitioners.
- Technical communication practitioners should be aware of the differences between legal treatments of intellectual property that contain fair use principles and those that do not.
- As international intellectual property treaties exist today, technical communicators working in international venues cannot expect fair use access to intellectual products in support of democratic interaction.
- Technical communication practitioners can use their influence to support the development of a fair use structure in international venues.

Introduction

Technical communicators are aware that increased international business and academic collaboration has had a broad effect on communication methods and product development. But as international access and collaboration have developed, so has the law that

influences intellectual product access and protection, and the changes in this area may not be obvious. As international law has adapted to allow increased intellectual product trade and development, scholars in intellectual property law have begun to discuss the need for a fair use structure in international intellectual property. The work of technical communicators will

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be directly affected by legal developments in this area. Changes might allow greater use of all internationally accessible products, leading to greater innovation, but they could also mean that product creators' own intellectual property might not be as strictly protected as it is under current international intellectual property law. Beyond the effects on international business, all creators should be aware of the humanistic issues that arise in connection with the treatment of intellectual property, especially in international venues.

In this article, I examine the position of fair use in international law's treatment of intellectual property. I analyze fair use from the basis of U.S. law because this, rather than international law, is its source. The article focuses on copyright, because the fair use doctrine arises out of U.S. copyright law rather than out of other intellectual property statutes.

In this article, the term "fair use" relates to a number of interrelated concepts. Although the term denotes a structure for allowing use of intellectual products under the fair use doctrine in U.S. law, other authors use the same term as a conceptual signifier to discuss the role of the fair use concept in international law; thus, I also use the term in this manner. However, I want to emphasize that fair use derives from domestic U.S. law in the 1976 Copyright Act, and the processes of assessing its function and protection against infringement claims rely on its relationship to the principles laid out in the U.S. Constitution. Fair use as it exists legally in the United States does not exist in international intellectual property agreements.

After probing the differences in how intellectual property law is treated domestically and in international law, I describe various difficulties that arise from the different cultural and legal perspectives. I discuss the significance of international parties' diversity and suggest that signatories to international intellectual property agreements forge treaties that accommodate the differing levels of power among international parties as a means to ensure human rights to citizens of all nations. I conclude by highlighting some of the difficulties and suggesting areas for resolution that might lead to a form of international fair use that would satisfy all international parties, balancing support for innovation against the need to protect basic human rights.

Importance of International Legal Issues for Technical Communicators

International legal agreements regarding intellectual property make clear that treaties determine how intellectual property law will be handled among international parties and that anything not included in the treaties and agreements must be decided in domestic venues on the basis of domestic law. In other words, neither U.S. laws nor the laws of other nations may determine how intellectual products are to be treated as international interests. And here lies the crux of the problem.

To suggest that a fair use doctrine should be integrated into international intellectual property law implies the incorporation of U.S. domestic law; however, the international intellectual property law that controls trade in intellectual products does not allow such incorporation. Thus, I suggest that the humanistic concepts of free speech and equal access be employed rather than attempting to superimpose the complex, constitutionally based structure of U.S. fair use law on international agreements. On this basis, technical communicators would be able to make empowered and ethical choices regarding their participation in international product development.

Many technical communicators work regularly in international collaborations or for clients in various countries, and many businesses are located in venues outside their home nations. For instance, the Coca-Cola Company is well-known for its worldwide reach and even capitalizes on it with its "World of Coca-Cola" exhibit in the Coca-Cola Museum in Atlanta, Georgia. Technical communicators have a big stake in how international legal issues can affect their interactions and control what happens to their contributions, particularly in light of current challenges that may draw international participants together to treat issues that ignore borders. For example, communications regarding the H1N1 virus were important at both the global and local levels, and information regarding the outbreak and treatment was supplied through multiple forms. Those whose job it was to create communications—some controlled by corporations and others by nonprofits and organizations such as the United Nations World

Health Organization—cooperated to produce communications that would protect the world's populations. Nevertheless, these products are subject to protections and limitations of international law that are advantageous in some cases and disadvantageous in others. Technical communicators who participated in developing responses to the potential crisis still have a stake in the treatment of their work.

Another example of a less exigent situation that involved global product development is that of technical communicators who worked on the Adobe Flex 2 online Help system, which grew out of contributions from users around the world. Not only would it be difficult to determine how to allocate benefits from this product's use, but determining the source for licensing could be extremely problematic. Two more examples illustrate the differences in treatment of intellectual products from one venue to another. A technical communicator might create a strongly protected work in a European Union venue that employs moral rights law but find that the same work would be accessible to the public by way of fair use in a U.S. venue. Another technical communicator, by way of fair use, might be able to reverse-engineer a structure for providing information clearly and effectively in a U.S. venue but might be inhibited from creating a new product on this basis in a more protectionist international locale.

Overview of Fair Use and Its Source

Fair use is a legal structure that derives from U.S. law, and this context is significant for understanding why fair use exists and how it operates. U.S. intellectual property law is unique because it is based on a primary constitutional goal to support knowledge creation, education, and innovation (see Herrington, in press). Advancing this goal, in turn, provides a foundation for democracy and individual self-actualization. The U.S. Constitution gives primacy to its educational goal by making the rights of authors and inventors supportive rather than primary. The promotion of education and knowledge development is made possible through an incentive to authors that encourages creation and allows them to benefit from their efforts, but their exclusive right to their creative products is limited.

Creators' control is subject to a time limit that provides for a public domain, as well as other constitutional limits, such as free speech and information access assurances, that underpin individual rights and egalitarian access to the democratic process.

U.S. Fair Use

The American approach is unique in its use of utilitarian policy as a driving force behind intellectual property law. More common, particularly among western European countries, is a moral rights (*droit moral*) or natural rights approach to creative product development that focuses on the rights of the author. The moral rights approach connects authors directly to their work, treating intellectual products as representational and also as personal. Under a moral rights treatment of copyrighted work, the focus is on the needs and interests of individual authors. In contrast, the U.S. intellectual property provision establishes intellectual property law as a means to support policy goals as a basis for ensuring the operation of the U.S. system of democratic government. U.S. statutory law, particularly in the fair use doctrine, reflects the constitutional basis for meeting the nation's goals to expand knowledge, support democratic interaction, and promote self-actualization and individual rights. Fair use is a key part of the 1976 Copyright Act and remains the legal basis for treating U.S. copyright today. The fair use doctrine helps effectuate the Constitution's goals by allowing the use of copyrighted materials without permission if the context of use adequately meets the statute's requirements (1976 Copyright Act).

In contrast to moral rights law, U.S. fair use law allows its citizens to use otherwise inaccessible intellectual products as a basis for participating in and influencing society. This helps to make possible an educated citizenry that is capable of maintaining democracy, enabled by support for activities such as news reporting and the criticism and commentary that form the core of democratic interaction and individual self-actualization. Technical communicators may use others' intellectual products (within the limits of fair use) to create their own and, thus, participate in a process of exchanging ideas.

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Ascertaining the reach of fair use is difficult and leads to a complex analysis of competing interests and domestic disagreements, even within a common foundation of U.S. law. Nevertheless, working within one national legal structure allows those with competing interests to argue within a framework that guides all participants, whatever their interest in supporting or diminishing fair use access. But even within a common domestic structure, U.S. law is not the only influence on what may happen to intellectual products. American technical communicators working in domestic venues are still influenced by decisions in international law and would likely benefit from an awareness of their possible impact.

Conceptual Basis for Fair Use in International Law

International law, based on treaties and agreements among international signatories, determines the legal interactions of diverse international parties both at and sometimes across international boundaries. To ensure that intellectual products are globally accessible and are traded to the advantage of international partners, all countries' needs must be accommodated through negotiation. Achieving this goal increases the difficulty of establishing feasible legal practice. That is, international partners must compromise the dictates of their own diverse and sometimes contradictory legal foundations to effectuate treaties and agreements that accommodate all nations and their varying legal structures. As a result of negotiations to reach trade agreements that manage the sale and distribution of intellectual products internationally, the ability to moderate intellectual property interests on the basis of the U.S. doctrine of fair use—even domestically—has been virtually eliminated.

In practice, parties negotiating intellectual product regulations have supported goals in trade rather than promoting laws that enable democratic policy. Efforts to "harmonize" U.S. law to coincide with the legal treatment of intellectual products in other countries have affected even U.S. law domestically, inhibiting the goals of the Constitution's intellectual property provision and the fair use doctrine that supports it. As Michael Birnhack points out, copyright has been severely limited since the advent of the World

Trade Organization (WTO) and the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), in which the "new copyright regime is no longer a law of the public and for the public, but rather, a law of business, for businessmen and investors" (Birnhack, 2006, p. 492). Those who create products for the international market may find this limitation advantageous, but technical communicators and other creative product developers who wish to maintain the ability to interact within a humanistically supported democratic structure may find it important to understand the benefits of introducing a fair use conceptual base in international intellectual property law. U.S.-based technical communicators who are accustomed to accessing copyrighted work as a basis for speech could find that without a humanistic structure for access in international intellectual property agreements, their ability to produce speech would be limited. For example, the ad for the film *Naked Gun 3 1/3*, featuring a pregnant Leslie Nielsen in a pose parodying the *Vanity Fair* cover of a pregnant Demi Moore, would likely be prohibited. Where a U.S. court found the use supportable as speech, even though it was commercial in nature, an international court would be unlikely to support it. Technical communicators working internationally without a fair use base might find their creativity restricted or, worse, their speech potential curtailed.

The Berne Convention and the TRIPS Agreement

On the WTO Web site, the Berne Convention is defined as "a treaty, administered by WIPO [World Intellectual Property Organization], for the protection of the rights of authors in their literary and artistic works." This treaty governs the treatment of its signatories' intellectual products across international borders. The TRIPS agreement, the Trade Related Aspects of Intellectual Property Rights, effectuates the Berne Convention's goals. Both Berne and TRIPS have been criticized by U.S. scholars for their lack of a fair use structure, notwithstanding the minimal limitations on protection that are built into the agreements.

In the Berne Convention, some exceptions to intellectual product protection exist to allow support for teaching and news reporting, but these exceptions function minimally and, according to most scholars, leave concerns for access to domestic legislation because “Berne and WIPO were created in order to protect the economic rights of owners, not the access rights of users” (Foster, 2008, p. 199). So, for example, technical communicators would be hindered from accessing others’ products for reverse engineering, which would otherwise be supported by U.S. copyright law. Foster notes that it is no surprise that Berne’s primary function is to protect the economic rights of copyright holders, because its development was a result of “authors’ rights groups exerting political pressure on their governments in order to obtain protection on an international level” (Foster, 2008, p. 196). Nevertheless, some concessions were made to access, acknowledging the need to preserve public access to important information. Thus, Berne allows limited access to works of a scientific or educational nature (Foster, 2008, p. 196). The existence of these exceptions indicates that the international community recognizes a need for some form of access to information on the basis of public necessity. But many authors believe that the TRIPS agreement that effectuates Berne is too limited in its support of public access.

TRIPS Trade-Related Aspects of Intellectual Property Rights

The TRIPS agreement sets standards for treating intellectual products that emphasize intellectual product protection. Rochelle Dreyfuss notes that because the motivation for the TRIPS agreement was to protect intellectual products and encourage trade, it did little to aid users’ rights of access (Dreyfuss, 2004, p. 21). And although Richard Peltz (2009) argues that fair use actions are creeping into the activities surrounding treatment of intellectual property under Berne and TRIPS, Ruth Okediji, an oft-cited author who proposes a new fair use resolution, makes a strong case that they are not. She says, “One of the cardinal objectives of TRIPS, then, was to extend strong

intellectual property rules to the rest of the world in an attempt to redeem maximum value for intellectual property products in the global market” (Okediji, 2000, p. 81). She says this was necessary to “redress the problem of lax enforcement and to secure the basis of competition in the global information economy” (p. 81). In fact, as she points out, among many who work with international intellectual property law, “the Agreement has earned notoriety as the most ambitious international accord on the protection of intellectual property” (p. 81).

This strict protectionist mantle characterizes international intellectual property law partially because intellectual property treaties are created more in consideration of patent than copyright, and no fair use access is provided in patent law, even in the United States. In addition, the business structures of parties who develop patents are often very different from those of the people who work with copyrights, trademarks, and trade secrets. Where patents are usually developed by large corporate entities, copyrights may be created by individuals; significantly, the economic interests of those who patent and those who copyright can vary broadly.

Implications for Technical Communicators

Technical communicators populate vastly differing workplace venues; some may develop products for large companies whose main interest is in protecting patents, while others may run individually owned and operated small businesses that compete by developing unique products to introduce to an established market. Academics in technical communication have an interest in accessing intellectual products as a way to assess their impact on society or their potential to shape trends in business and communication development. A strong protectionist base in international trade law ultimately provides substantial aid to those with great power and can hinder access for those who lack power. Technical communicators, thus, are affected by the parameters of their specific workplaces as well as by the international intellectual property law in each venue in which they work.

Product developers who are interested in humanistic access to information to support learning and

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innovation should note Okediji's conclusion about the protectionist nature of current international intellectual property law; she says that "an international fair use doctrine does not currently exist in the internal law of copyright" (Okediji, 2000, p. 87). She argues that "such a doctrine is vital for effectuating traditional copyright policy in a global market for copyrighted works as well as for capitalizing on the benefits of protecting intellectual property under the free trade system" (p. 87). This opinion is echoed by Dreyfuss (2004), Foster (2008), Leaffer (2001), and Long (2002), among others.

International Fair Use Doctrine?

The value of fair use to support U.S. constitutional goals is clear (e.g., see Herrington, 1998, 2001, and in press). But questions about how to create and effectuate an international form of fair use remain. I believe that international law should contain a form of fair use that encompasses the *concepts* behind it, because fair use concepts allow access that makes it possible to support human rights for individuals, such as freedom to speak and to participate in determining how their cultures are represented, how their intellectual products are treated, and how their means of cultural (and sometimes physical) survival are supported or hindered by legal structures that will dictate their futures both at and across international borders.

Fair use in U.S. domestic law operates on the accepted basis (if not always operational in reality) that all U.S. citizens have the power to participate in democratic dialog. It exists within a structure of balance provided in the Constitution that acts as a foundation for all aspects of law in the U.S., so the fundamental goals in the Constitution temper the means and manner by which fair use proceeds. Legal access to copyrighted intellectual products is, on the basis of political theory, available to all U.S. citizens through fair use to support educational and free speech purposes. Therefore, in theory, fair use cannot be used to undermine the rights of some in favor of the rights of others. In other words, constitutional policy supporting public rights in favor of individual needs drives fair use and effectuates the overriding policy interests in treating intellectual property as a whole.

International Base for Intellectual Property: Fair Use Contrast

In contrast, international intellectual property law under Berne and TRIPS is based on economic needs and goals. Berne and TRIPS are trade agreements that allow nations to exchange innovations. And because international treaties and agreements must accommodate the vastly differing needs and government structures of all signatories, no one domestic legal structure can be used as a basis for international law. Aspects of U.S. law that are tied to fair use—such as the First Amendment—are not factored into international intellectual property protection and access issues. The result—as Dreyfuss, Foster, Leaffer, Long, Okediji, and others note—is that fair use interests have not been incorporated into Berne and TRIPS.

Okediji's argument that fair use should be incorporated into international intellectual property law might be supportable if all actors affected by international treaties retained equal power to balance the satisfaction of human rights needs made possible by fair use against the needs to protect products in support of innovation and intellectual advancement. In this case, incorporating a fair use policy into international intellectual property law could produce optimal results. Long echoes the benefits of this possibility, and I strongly agree that "appropriate levels of protection, which balance individual rights with community needs, developed through a harmonization process that assures democratic access and avoids marginalization of less politically powerful voices, can serve as a powerful force for balanced, continued economic growth and development" (Long, 2002, pp. 248–249).

International Fair Use Type of Intellectual Property Structure

Accommodating Differences: Considerations for a Humanistic Use Structure in International Intellectual Property

Creating a legal means of access to internationally traded and protected intellectual property products

based on concepts in fair use could be problematic. To make a fair use structure possible, a number of difficulties would have to be overcome. The following are some of the issues that must be considered if a form of international fair use is to be developed and accepted among international treaty signatories.

Negotiations among multiple nations can be extremely difficult, because the bases for their laws vary broadly. As Long aptly points out, integrating international parties' interests can increase the pace of economic development but may also lead to "an erosion of sovereign autonomy" and could end in greater problems if regional needs are subverted in the process of supporting global considerations (Long, 2002, p. 239). Tending to the requirements of all nations that are potential signatories to an incorporated fair use doctrine implies finding a way to appease the needs of each nation, its corporations, and its individual citizens. The mix of developed and developing countries—with their broadly diverging goals, interests, and laws—requires complex efforts in negotiation. Technical communicators who trade with international entities should prepare for interaction by researching the legal background of potential trade partners' nations and determining their positions on human rights issues.

Nations often represent the interests of their corporations rather than of their general populations. Because individuals' needs and rights are not always considered, negotiators would have to be careful to ensure that access in a fair use structure would extend not only to those with power to use it but to less powerful individuals or groups that may need it most. This is a daunting task.

In fact, U.S. citizens' rights provided through domestic policy were diminished when the copyright term extension act was passed, in part as a way to harmonize with Berne. Harmonization reduced the public domain and diminished the power to protect the policy interests supported in the U.S. Constitution. Many argue that harmonization of the U.S. term limitation on copyright, in effect, disabled the constitutional mechanism for creating a public domain, thereby rendering the current copyright statute unconstitutional. Others have argued that harmonization with international parties for the purpose of enabling trade has overriding value. But "critics argue that

harmonization is just a disguise, and that there is no harmony in a world where the powerful impose their will upon the weak" (Birnhack, 2006, p. 503). Technical communicators who work in corporations might participate in helping to create balance by influencing the vision of those who negotiate in favor of product protection to include a way to support humanistic values.

Developing countries may need special power to protect their cultures and cultural products against the kinds of access that a broad fair use might allow if it were incorporated in current international intellectual property agreements. Because Berne and TRIPS are based on trade rather than policy interests, they encompass no system of policy balance that would allow fair use to operate in a way that protects the products of those who need protection, while also supporting human rights interests in speech and fair access to education and the means to participate in innovation. If a fair use structure were written too broadly, it might actually be harmful rather than helpful to the weaker parties to a potential agreement.

Human Rights Interests

To uphold human rights interests in speech, representation, security, and self-actualization, the international fair use structure in international intellectual property law should maintain some kind of mechanism to allow the kinds of functions that fair use is intended to provide in U.S. statutory law. But because Berne and TRIPS support trade rather than a government policy interest, international fair use would have to be shaped in a way that responds to trade needs to gain cooperation from signatories, while implementing compliance from those who would be compelled to compromise their interests to make policy support possible. This prospect is further complicated because not all signatories perceive laws in the same way. For instance, "despite attempts to create an international principle of free speech, there is no such unified principle. Free speech remains a local matter, with free speech jurisprudence and the 'tradition' of free speech varying from one jurisdiction to another" (Birnhack, 2006, pp. 494–495).

Finding a means to enable speech and other human rights, even within international compromises of

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domestic law, is important to the human rights of all people. Peltz (2009) believes that a trend in that direction is beginning to take hold, in which “the international community might even be warming to U.S. fair use doctrine, or some similar ‘public interest’ doctrine, because it is a legal norm that is more permissive of the nonconsensual use of copyrighted content than traditional common law and civil law models that have dominated the international field” (p. 71). He surmises that the balance may be shifting toward users’ rights as a reaction to overbroad protectionist tendencies in copyright law, but cautions copyright holders that “[i]f the tide is turning to favor fair use, then content users may seize the opportunity to press for their own favorable copyright balance” (pp. 271–272).

To negotiate an international fair use mechanism on a legal rather than policy basis would be complex, and it is clear that creating a viable structure would be difficult. But it is also important to consider the role power plays in how fair use or something like it would operate. Both workplace and academic technical communicators are in a good position to consider these issues, since they work within a balance of product use and development as a regular part of their everyday activities. They might be able to influence the development of a fair use structure on the basis of their familiarity with the workings of fair use in U.S. law and a democratic system built on humanistic goals. I contend that a structure of international fair use that equalizes power among signatories would be an optimally useful legal structure. The following issues would affect the development of such a structure.

Balancing Power

The key for developing an effective international intellectual property structure is to create a means for balancing power among treaty signatories, developers, and users of creative products. Without this balance, a viable fair use pattern that simultaneously supports innovation and access cannot exist. The following material points directly to power as a central feature in international intellectual property law.

Much of what occurs in treaty negotiations among nations reflects corporate rather than citizen

interests, a situation that can allow individual rights to be overlooked. An effective, balanced international fair use mechanism would require a cornerstone of individual/human rights. Finding a method to balance human rights interests (which often attach to individuals) against the need to facilitate trade and innovation requires an assessment of where the power lies in each affected party and demands assurances that greater power in one party cannot be used to overcome the human rights of another.

Developing countries are often weak participants in treaty negotiations with developed powers. In fact, Graeme Austin says that “several respondent countries [working within Berne and TRIPS] reported that expressions of folklore originating in their countries had been exploited abroad without authorization” and that this kind of inequity is “a trend that will likely increase as global communication systems expand” (Austin, 2003, p. 334). The great difficulty in creating balance in this area is that developing countries with new intellectual products need strong means for protecting those products against infringement by those in countries with greater access and power. But, by the same token, an international fair use structure for access that provides for the same interests balanced in U.S. law would also mandate a means of access to information to allow weaker parties to participate in egalitarian negotiation. These conflicting interests must be carefully balanced, particularly with regard to their effects on weaker signatories.

Awareness of the needs of indigenous cultures and their interests is strong among authors who examine international intellectual property law from a human rights perspective, and steps have been taken in response to the need to protect culture. These include initiatives for the protection of folklore, such as the “guarantee in the International Covenant on Civil and Political Rights, that persons belonging to ethnic, religious, or linguistic minorities ‘shall not be deprived of the right, in community with other members of their group, to enjoy their own culture,’ and the recognition of the right of indigenous peoples to self-determination, articulated in the International Labor Organization Convention 169” (Austin, 2003, p. 335). Finding a balance that accommodates this complex set of needs is important to an effective international fair use mechanism.

Many human rights are intangible, noneconomic, and aspirational, in the sense that they support individuals' interests in self-actualization and self-governance. As a result, these rights are hard to account for in economic systems such as Berne and TRIPS. In fact, “it is not possible for human rights to have priority over economic policy. Rather, economic policy must be implemented to realize human rights to the greatest extent possible” (Foster, 2008, p. 173). Finding a way to accommodate these rights to provide individuals with powers of self-development would be important in a fair use mechanism.

It is not feasible to use the law of any one government in place of another in international agreements. And “TRIPS’ reliance on national standards cannot create a unitary intellectual property (IP) regime because the common law and civil law systems are based on different rationales and presumptions which lead to legal plurality—and conflict” (Engle, 2002, p. 188). Nevertheless, determining commonality among human rights interests is imperative. Reaching agreement on what human rights are is difficult enough; in negotiating a structure for supporting them, parties would also have to prioritize them.

The U.S. Constitution’s Framers understood the value of access and interaction with intellectual products as a basis for making innovation possible. They knew that a balance of these interests would lead to a strong, progressive society. Where developed countries already have a base of information and creativity from which to build, despite the cultural interests of indigenous peoples that must be accommodated within a properly balanced structure, developing countries may be a position in which access is more important than product protection for their ability to create and innovate, and ultimately to become strong parties to global agreements. Thus, even in international law that does not draw from the U.S. Constitution’s principles, some support exists for users’ rights. As Dreyfuss (2004) notes, “A few user rights can be found in the TRIPS Agreement itself. For example, Article 9(2) prohibits the extension of copyright to ‘ideas, procedures, . . . and such,’ and Article 10(2) limits database protection ‘to the data itself’ (p. 30).

In addition, the Universal Declaration of Human Rights (UN General Assembly, 1948) supports speech

and information access interests. Under Article 19, “everyone has the right to freedom of opinion and expression: this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers.” Technical communicators may wish to maintain a structure that allows them to engage internationally in the development of creative work, supported by their own human rights interests. For those who do, supporting a human rights basis for intellectual product access in international venues is important.

Conclusion

In an ideal world, humankind would be supported in all efforts to create, to build knowledge, and to improve the world’s condition, challenging common obstacles like climate change, supporting common goals like disease eradication, and improving each person’s quality of life by ensuring the basic rights to freedom, including the ability to access the body of intellectual material that frames our experience with the world and to participate in speaking about it as a way to shape it. Although the conceptual goals of the U.S. fair use doctrine could provide a valid starting point from which to build a means of access to information in international intellectual property law, requiring signatories from varying domestic legal structures to accept U.S. domestic law as a basis of international law is not feasible. More important, fair use is intricately bound to a broader structure of balance within the U.S. Constitution; it would not function as a basis for international law if it were severed from its restrictions to legal principles of democracy in U.S. domestic law.

I suggest, instead, that international actors consider ways to structure a means of intellectual product access within international law based on nations’ common interests in supporting human rights rather than on U.S. domestic law. Technical communicators could participate in making this possible in the following ways:

- Acknowledging the differing bases of law driving international partners’ and clients’ development decisions and negotiating differences to create

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products in a way that benefits all participants. For example, technical communicators might opt to create intellectual products that avoid using cultural capital of indigenous people who are represented by signatories who negotiate treaties for corporate rather than cultural advantage.

- Choosing international partners and clients who approach product development with human rights interests in mind—asking about their stances on human rights and intellectual property and making difficult ethical choices to work only with those who support humanistic goals.
- Influencing international participants in legal negotiations regarding intellectual property regulations. U.S. technical communicators have worked within a domestic intellectual property structure that arises from a basis of humanistic framing. This experience can enable them to help guide the development of a human rights–based international intellectual property structure.

An international law of access based on human rights could allow its signatories to moderate access on the basis of balancing power. An effective model of access attuned to human rights could provide weaker signatories with protection against intrusive access to their cultural products while still providing speech access to all signatories. A human rights approach might be an effective way to meet the needs of a world in which information is not just a commodity but also frames our way of life. Although this article focuses on the challenges of creating an effective mechanism for fair use in international intellectual property law, I hope that it will also contribute to efforts to conceptualize the possibility of incorporating fair use principles into an effective international doctrine. In this way, technical communicators and other participants in product use and development will be able to pursue innovation, tempered by human rights limitations and facilitations, to the advantage of all people.

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Avon J. Murphy, Editor

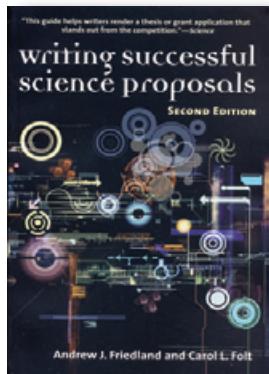
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Writing Successful Science Proposals

Andrew J. Friedland and Carol L. Folt. 2009. 2nd ed. New Haven, CT: Yale University Press. [ISBN 978-0-300-11939-8. 204 pages, including index. US\$18.00 (softcover).]



The advanced writers who buy this book because of the title will be pleased to find exactly what the authors promise. Science and engineering researchers who seek federal funding will find practical writing strategies from these experts.

Friedland and Folt are life scientists who teach proposal writing regularly, so

they explain their guidelines throughout this text as if introducing the genre to graduate students. The well-developed book provides 10 short exercises that will help readers who simultaneously manage staff, conduct research projects, teach courses, and lead grant proposal teams. The authors introduce specialized vocabulary terms required by federal agencies for paragraph-level content, the working of large multidisciplinary teams, and the role of proposal reviewers in the competitive federal funding process. Readers also learn details about authorship and ethics, including appropriate guidelines for principal investigators.

A new chapter in this edition about foundation funding stresses preexisting relationships of the researcher's institution with foundation staff and warns readers about the impact on a researcher's tenure.

The book needs two updates. Federal agency Web sites and search tools have changed recently, so any reader who wants to offer academic consulting services needs to know about new search strategies for finding the grants awards databases and links for electronic proposal submissions. First, the National Science Foundation, NASA, Defense Research Agencies, and United States Department of Agriculture/Cooperative State Research, Education, and Extension Service (CSREES) have designed a consolidated Research.gov Web site www.research.gov for electronic submissions and access to the awards database. More agencies will be added as partners, so Research.gov does not yet replace the home pages of the agencies that provide the portal.

Second, on the National Institutes of Health Web site, writers will have to use the Research Portfolio Online Reporting Tool (RePorter) search tool to find awards, because the NIH Crisp tool was replaced in September 2009.

In addition, the authors do not directly address the greatest challenges for a new writing consultant or junior researcher who seeks multiyear funding: strict adherence to the request for proposals, proposal document control, and online editing with investigators in other states and countries.

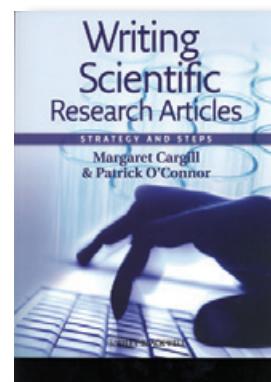
Writers on collaborative teams of scholars and joint industry-university projects will profit from reading and rereading this book.

Karen S. Griggs

Karen S. Griggs is a communication consultant to academic, business, engineering, and environmental organizations. She belongs to STC, the Association for Business Communication, and the Association of Professional Communication Consultants.

Writing Scientific Research Articles: Strategy and Steps

Margaret Cargill and Patrick O'Connor. 2009. Oxford, UK: Wiley-Blackwell. [ISBN 978-1-4051-8619-3. 173 pages, including index. US\$29.95 (softcover).]



For scientists who are just entering what Margaret Cargill and Patrick O'Connor call "the international research conversation," writing research articles can be quite daunting. To be published, research articles need to tell the scientific story quickly, completely, and carefully—and that task is much harder than it looks.

Fortunately, Cargill and O'Connor—a scientist and a research communication teacher, respectively—have produced a wonderful guide to this difficult process. *Writing Scientific Research Articles* is a standalone guide or workshop book that lays out the basic procedure for writing a research article, starting with the critical predrafting process and moving on through the writing

of each section of the article. To guide this writing, the book includes two published research articles in the appendix, one from ecology and one from plant biology. (The book focuses more on physical science than social science research, although you can work the book's examples using a sample article from your own field.) Each short chapter explores a different section of the scientific article, primarily through examples and exercises. (Fortunately, the appendix includes full, descriptive answers to the exercises.) The book also includes an in-depth look at what journal editors look for in research articles and ends with a very useful chapter, "Developing Discipline-Specific English Skills," for readers speaking English as another language.

The authors have spent years teaching scientists in China and Australia to write articles, and the first piece of advice they give is time-honored: "Identify . . . a clearly connected story which leads to one or more take-home messages" (p. 21). In the sciences, the story is in the data, and the data are in the figures and tables—and that is where Cargill and O'Connor begin: "Our aim in this section is not to provide a concrete set of rules for data presentation but rather to help you optimize the presentation of your data to support the story of your article" (p. 23). Subsequent chapters explore the sections of the typical research paper in the order they are to be written: results, methods, introduction, discussion, title, and abstract.

Although each of these sections offers specific advice, the introduction showcases some of the best features of this book. Citing research drawn from applied linguistics, the authors divide introductions into five main stages and provide annotated examples of each. This makes it easy to see writing that works and writing that doesn't. They also use these examples to illustrate some nuggets of good technical writing: writing topic sentences that transition from the previous paragraph, starting a sentence with old information and ending it with new, putting the subject and verb into the first nine words of a sentence, and moving from general to specific information.

Writing Scientific Research Articles also includes quite useful sections on getting articles into print: preparing manuscripts, doing pre-edits with colleagues, and knowing what editors and referees want. (For example, editors want "good science" over good writing.) These pages include a list of the typical questions on referees' scorecards and an entire chapter devoted to how

to respond to the (sometimes vague) comments of referees.

However, what will probably set this book apart are the techniques it offers for scientists who speak English as another language (EAL). For example, consider these two techniques: "borrowing" sentence templates from other articles (for their structure, not their content) and using free concordancing software to investigate how words are used (such as general and specific articles). These simple, formulaic suggestions could help EAL speakers learn good writing skills and dramatically improve their articles.

The one downside to this book is wading through all the examples, which are obviously designed to be used in a workshop. (Cargill and O'Connor even suggest that you pair up with someone else as you go through the book.) But even if you aren't lucky enough to find a workshop that uses this guide, it is absolutely worth having on your shelf for its wealth of writing advice, whether you are new to scientific writing or are an experienced writer.

Jake Ashcraft

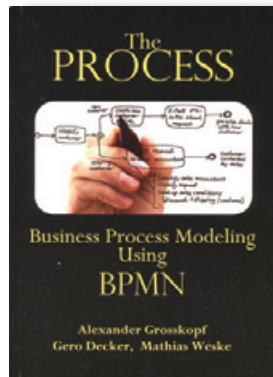
Jake Ashcraft has worked as a teacher, manager, and writer in the scientific sector for more than 10 years. He recently graduated from the Technical Communication program at the University of Washington, where he focused on scientific communication. He teaches chemistry at Seattle University.

The Process: Business Process Modeling Using BPMN

Alexander Grosskopf, Gero Decker, and Mathias Weske. 2009. Tampa, FL: Meghan-Kiffer Press. [ISBN 978-0-929652-26-9. 181 pages, including business process modeling notation poster. US\$34.95 (softcover).]

BPMN Method and Style

Bruce Silver. 2009. Aptos, CA: Cody-Cassidy Press. [ISBN 978-0-9823681-0-7. 213 pages, including index. US\$35.95 (softcover).]



The Process: Business Process Modeling Using BPMN makes an interesting read because it is written as a fast-paced novel based on a real company that the authors use to guide you through the business modeling process. It aims to show you how to use process thinking and process modeling as the path to business innovation.

Business process modeling is becoming more prominent for documenting business and system processes. Business systems analysts and technical communicators are the professionals who should be well-versed in the structure of business process modeling (BPM) and the graphical notation or business process

modeling notation (BPMN) that accompanies it.

Business process modeling shows the complete end-to-end process-oriented view of a business process by representing it graphically in a flow chart or swimlane view. A process shows the steps and actors (humans or systems) in a process, describes what information is needed when, and determines where transfers (handovers) take too much time. The analyst then looks for ways for the business to improve processes, increase quality, reduce waste, and save time. The main challenge is to document the processes effectively using a visual method, analyzing the model, and deciding

whether changes are needed, and to conclude with full documentation of the processes and the decisions.

Grosskopf and colleagues say, “Process models are visual artifacts to communicate content” (p. 21). Processes start simple and reach a complexity in which each step needs further explanation. Through the visual representation, you need to create and communicate a common understanding of what the symbols mean (the common semantics) that become the process-modeling language.

Diagramming processes using BPMN have Start events (open circle), Sequence flows (arrow connectors), Activities/Tasks (squares or rounded rectangles), Decisions (diamonds), and End events (thick-bordered open circles). Many more symbols exist, but these are the primary ones anyone needs to know to read a process model. The authors say, “All models are incomplete. It’s the nature of a model to reflect aspects of the reality. A subset. They can never be complete. But if this subset helps to understand what is done then the model is useful” (p. 32).

People or systems perform certain roles in a process. In BPMN, you identify the tasks/functions/activities that each entity performs by using a swim lane, which is similar to a pool used for swimming competitions. Lanes are called pools that represent the actors (human or system) that perform their own process steps in their own lane. When you group all the pools into one diagram, you have a swimlane diagram.

As a book has chapters, processes have subprocesses. A subprocess is an activity or task that requires completion before the process continues. These subprocesses may be one-time events or repeatable, recurring, reusable events that occur in more than one process. The authors write, “Subprocesses can be used to place a whole process model inside. Usually a subprocess links to a process diagram described somewhere else. But there is also the concept of embedded subprocesses. They can be expanded to show the process behind the subprocess in the same diagram” (p. 74).

A completed process model is called the AS-IS model. Analysts and business leaders use the AS-IS model to look for areas where the business can reduce costs, time, or the use of multiple applications. During this analysis, you may move parts around or model a what-if scenario that brings in a new process or application to see its effect on the business. Your AS-IS model now becomes your TO-BE model. If the

business adopts the changes, the TO-BE becomes your new AS-IS until the next analysis takes place.

The Process makes for an easy read. You learn much more in this book about business process modeling (BPM) and its notation (BPMN) than you might from any other book on this subject. The best part of the book is that it comes with a glossy poster showing you the entire BPM notation with explanations on when and how to use it.

BPMN Method and Style teaches you about the BPMN elements, shows how to use BPMN to approach problems, and offers guidelines for what constitutes a good BPMN style. Moreover, it provides a separate methodology for both businesspeople and technical developers. Unlike Grosskopf's book, Silver's is a study guide and reference book on the concept of BPMN version 2.0.

BPMN is an Object Management Group (OMG) standard that is not owned by a vendor or consulting company. It is free and has spawned many free or affordable tools for documenting and modeling processes. Like flowcharting, BPMN is user-friendly, because it uses a set of shapes and symbols that have "a precisely defined meaning, with rules about what can connect to what and what those connections signify" (p. vii).

Process modeling serves one of two purposes: (1) to model the activity sequences in a process, or (2) to create a blueprint for automating that activity sequence within an execution engine to improve existing business processes. Silver's method uses a three-level approach, wherein Level 1 is descriptive modeling that uses a simple process map, Level 2 is analytical modeling that includes more precise activity flow definitions with exception paths significant to a business's key process indicator, and Level 3 is executable modeling that only a few major vendors have activated with their own BPM suite (BPMS) tools. *BPMN Method and Style* covers Level 2 in depth.

Modeling processes can become quite dense. All models should "flow left to right with sequence flows entering activities from the left and exiting from the right. It takes some rearranging to keep line crossings at a minimum, and sometimes it cannot be avoided" (p. 15). The objective is to keep the diagram neat and consistently organized to aid in shared understanding.

BPMN Method and Style explains the steps involved in documenting process flows at Levels 1 and 3. The

Level 1 method includes five steps: (1) define process scope, (2) create the top-level diagram for the happy path, (3) add to-level exception paths, (4) expand subprocesses to show detail at the child level, and, optionally, (5) add intermediate message flows to external pools. Silver's discusses the 13 compositional elements and six elementary usage rules of the Level 1 BPMN style.

Level 2 modeling takes the standard Level 1 flowcharting and models to a deeper level to do simulation analysis (projected quantitative performance improvement) and underpin executable processes. Running simulations and executable processes requires precisely defining the flows semantically: "exactly what happens when, under what conditions—as if the model were actually controlling execution by some automated program" (p. 59). This deeper meaning adds complexity to the start and complete events, send and receive events, automated tasks (script, service, asynchronous request), and decisions and rules events.

In *BPMN Method and Style*, the Level 2 method uses the Level 1 steps and adds four more: (6) refine branch/merge notation, (7) refine for channel-dependent start, (8) refine for iterative behavior, and (9) refine exception handling patterns. Silver discusses the 13 compositional elements of the Level 2 BPMN style. Silver briefly covers Level 3, the executable BPMN, by saying that it is a brand new feature of the BPMN 2.0 standard. Its main purpose is to extend the XML underneath the diagram to a complete executable design language.

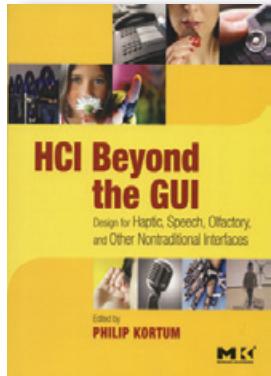
BPMN Method and Style is a good reference book to have available. Bruce Silver is a noted expert in the field of BPMN and offers his own certification course for purchase from his Web site at www.bpmessentials.com.

Jackie Damrau

Jackie Damrau has more than 20 years of technical communication experience. She is a fellow and member of the STC Lone Star community and the Instructional Design & Learning SIG, manager of the Nominating Committee, and member of the Competitions Task Force. She enjoys reading philosophy and psychology and spending time with her grandson.

HCI Beyond the GUI: Design for Haptic, Speech, Olfactory, and Other Nontraditional Interfaces

Philip Kortum, ed. 2008. Burlington, MA: Morgan Kaufman. [ISBN 978-0-12-374017-5. 462 pages, including index. US\$49.95 (softcover).]



HCI Beyond the GUI, edited by Philip Kortum, is written by an international collection of experts from a wide range of backgrounds, describing their research in alternative human-computer interaction (HCI), that is, HCI using interfaces other than the traditional graphical user interface (GUI).

Chapters include HCI variations for 11 nontraditional interfaces covering all five senses. These interfaces were selected by the editor to represent the most important nontraditional interfaces that human factors professionals should be familiar with to appropriately address user needs and technological trends. Some senses are broken into variant applications when their basic use is already commonplace—such as auditory, voice, and interactive voice response for sound interfaces, and small screen, multimode, and multimodal for visual interfaces. And while the book is titled *HCI Beyond the GUI*, the visual interface chapters do describe GUIs, but with the caveat of nonstandard usage (the small-screen and multimodal interfaces). Because of the bleeding-edge technology involved, the chapters on olfactory and taste interfaces are relatively short and provide more background information than research data. In fact, the chapter on taste discusses more than flavor.

Most chapters are amply illustrated with black-and-white images, and the chapter bibliographies provide numerous references if you wish to research particular topics. All chapters follow the same basic format, covering the interface's nature, technology, current implementations, human factors, testing techniques, design guidelines, case study, and future trends. This repetition can start to feel monotonous despite the variety of contributors but does make it easy to compare the attributes and characteristics of each

interface if you're using the book to determine which approach would be most appropriate for an application.

The book is written to be used as a textbook as well as a how-to guide for developing and testing alternative interfaces, whether in a real-world or virtual reality environment. The chapter on locomotion interfaces in particular—describing interaction in high-end simulators—reads as if the authors were designing the holodeck for *Star Trek*. However, chapters vary in level of technical detail, ranging from introductory to expert. For example, the chapter on gestures feels fairly simplistic to me, especially as it immediately follows the chapter on haptics, which relies heavily on technical terms. Such high-level chapters use advanced mathematics and terminology to describe the human psychophysics that explain how and why the interaction works. This could very well be extremely useful information, but it is provided inconsistently throughout the book. And although the book reads well, the numerous typographical errors in the text are a distraction.

Case studies provide information on real-world experiences, and more detail is available on the publisher's accompanying Web site, www.beyondthegui.com. Unfortunately, the Web site fails to live up to its full potential. I appreciate the additional information, but some case studies are very brief, and almost all are exclusively black-and-white PDF documents that look like appendixes that never made it into the book itself. While I understand that it isn't possible to replicate multisensory interactions in a standard Web site, the companion site would have been an ideal way to provide multiple case studies and full-color graphics for the text, as well as additional sensory touches like the sound files that support the chapter on auditory interfaces and help bring the text to life.

While the nature of alternative interfaces makes them obvious considerations for the accessibility issues addressed in *HCI Beyond the GUI*, I applaud the book for its consistently strong user-centered design considerations, including concern for natural interactions and avoidance of user fatigue. In fact, Kortum summarizes his fundamental design principles, applicable to all types of interfaces, in his introductory chapter, emphasizing that any interface should be effective, efficient, and satisfactory for the user.

In all, *HCI Beyond the GUI* is a good introduction to alternative HCI options, providing ample history, data,

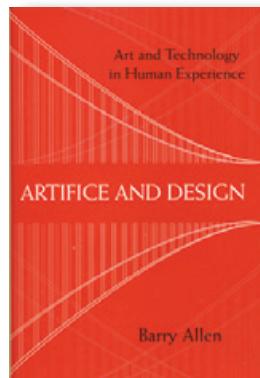
and direction for development. If you're looking for information on user interfaces other than the traditional GUI, this book is a great place to start.

Devor Barton

Devor Barton holds a BA in communications from the University of Houston, and a certificate of project management and an MS in technical communication from the University of Washington. He is a member of STC's Puget Sound Chapter and the Technical Editing SIG, and is an ICIA Certified Technology Specialist.

Artifice and Design: Art and Technology in Human Experience

Barry Allen. 2008. Ithaca, NY: Cornell University Press. [ISBN 978-0-8014-4682-5. 213 pages, including notes and index. US\$35.00.]



Barry Allen's *Artifice and Design* argues that the invention of tools established a common ground between design (technology) and artifice (art). For Allen, only humans can infer the intentions of others (whether expressed or not), and this awareness defines a uniquely human social understanding. The singular dexterity of the human hand

can in turn shape this socially shared knowledge into functional objects, tools, and artifacts. Human tools are therefore consciously “designed and made, usually by others, to facilitate action”; they are “manufactured,” literally “made by hand,” and are specifically social in nature (p. 2). In contrast, apes lack both the ability to read intentions and the prehensile facility to manufacture tools. A chimp extracting termites from a hole with a stick employs “a conveniently nonce object manipulated into facilitation,” but such use depends entirely on the co-presence of stick, ape, and termites (p. 2). A chimp will not necessarily use his “proto-tool” again, even in the same circumstance; nor will he see its usefulness in other situations or share his knowledge of it; hence a chimp’s tool is really a “proto-tool,” an implement usable only in a particular context, and usually only once.

Tools and artifacts—made objects—therefore embody the social needs and purposes of the group; these include both utility and beauty. Hence artifacts are designed for both function and perception, either singly or as assembled systems. The emergence of artifactual systems combining instrumentality with aesthetics results in what Allen calls “technology” and coincides with the development of art—both involve artifacts designed “in anticipation of perception” (p. 177); both are unified in a “technical economy” of “perceptually expressive works” (p. 157); and since “technical coherence (design) begins with aesthetic coherence (beauty) and never abandons it,” both share a common origin and retain a symbiotic relationship (p. 178).

New York’s Hell Gate Bridge exemplifies this symbiosis. The arch bridge, its ends embedded on each side of the East River, can easily support its load all by itself, yet the designer added massive towers at the abutments. Why include towers that aren’t technically necessary? Because both the engineer’s “trained” eye and the nonengineer’s *untrained* eye feel “the want of a visual counterpart to the thrust inconspicuously channeled into the foundations” (p. 139). Intellectually, we understand the bridge’s ability to work without the towers; aesthetically, we do not. We need to *see* the weight at work; and so an aesthetic quality is built into the object in anticipation of its perception. However, though they seem purely ornamental, the towers, by increasing downward thrust, also assume a functional purpose: they permit “the designer to minimize the volume of the foundation while keeping thrusts within the safety zone” (p. 140). Beauty and utility, then, are not mutually exclusive. They reinforce each other, and this can be seen throughout history, in an ancient axe or a modern bridge.

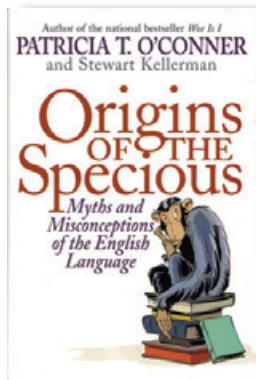
Allen’s argument sometimes seems circular and repetitive, and the style occasionally is obscure, but these are cavils. The book is rich in insight, reveals deep scholarship, and will provoke fruitful reflection in technical communicators concerned about usability as a combination of utility and beauty. Read it!

Donald R. Riccomini

Donald R. Riccomini is an STC member and a lecturer in English at Santa Clara University, where he specializes in teaching engineering and technical communications. He previously spent 23 years as a technical writer, engineer, and manager in semiconductors, instrumentation, and server development.

Origins of the Specious: Myths and Misconceptions of the English Language

Patricia T. O'Conner and Stewart Kellerman. 2009. New York, NY: Random House, Inc. [ISBN 978-1-4000-6660-5. 266 pages, including index. US\$22.00.]



Who hasn't had a vicious argument about the proper use of a word or whether English is a malleable language? Maybe that's just me. But if language is your game, *Origins of the Specious: Myths and Misconceptions of the English Language* is your book. It's a blooper highlights reel of English, explaining fables from the myth

about the number of Eskimo words for snow to the misconception that all double negatives are incorrect.

Origins of the Specious discusses these misuses and myths with a wry sense of humor. It even includes some lightly dirty humor, such as a bit of history on the Yiddish word *putz*. When discussing that newspapers were "abuzz" about two Oxford dictionaries giving the okay to willy-nilly split your infinitives, the authors comment, "It was a slow news week" (p. 17). In explanation for why the word *ain't* is no longer considered acceptable language, they say, it "got too big for its britches" (p. 49). An entire chapter that had me snickering is "Lex education: Cleaning up dirty words." If you want to bore the curse words out of unruly children (or inform it out of them, depending on their disposition), you might read them this chapter.

The authors use humor to get a basic idea across: English is a liquid language (regardless of how thick we would like that liquid to be). Throughout the book, they say that English is changed by "the people who actually use the language day in and day out" (p. 43), that is, all of us. My favorite example is the hunt for a single "all-purpose pronoun for people that can be masculine or feminine" (p. 141). We all know how frustrating it is to write around "he/she" and "he or she." But try as we might, no word has successfully taken hold of this empty space. *Thon* made a valiant effort in 1858 but fell by the wayside. Regardless, it will always hold a special place in my heart.

Occasionally, their humor can get a bit harsh, but in a teasing way. With regard to the literal meaning of "beg the question," which Aristotle originally used in 350 BC, they say, "It's time for the purists to get a life—one in the twenty-first century" (p. 182). In another example of harsh but humorous reprimands, they say, "If you think 'octopi' is classier than 'octopuses,' go stand in the corner" (p. 184). Away I went.

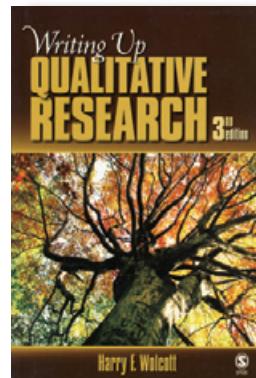
At times, this book had me laughing out loud for the dorky language jokes. And if it doesn't provide enough information for you, the bibliography in the back provides 30 other resources. I definitely recommend *Origins of the Specious* for language junkies with a good sense of humor.

Angela Boyle

Angela Boyle is a technical writer for Tyler Technologies, Inc, where she has worked for four years. She graduated from the University of Washington with a BS in technical communication.

Writing Up Qualitative Research

Harry F. Wolcott. 2009. 3rd ed. Thousand Oaks, CA: Sage. [ISBN 978-1-4129-7011-2. 208 pages, including index. US\$41.95 (softcover).]



Ironically, when I began reading *Writing Up Qualitative Research*, I was in the midst of writing an article that was attached to a swiftly approaching deadline. I knew the material, but I just couldn't seem to put it together in a way that I felt would engage the audience. Few academics out there haven't been confronted

with a similar scenario, which is why this book is so necessary. Harry F. Wolcott, a professor emeritus at the University of Oregon, has been through the trenches in his 40-plus years as an academic, and his advice is both comforting and valuable for any academic writer who works with qualitative data.

Writing Up Qualitative Research is organized into seven chapters that mirror the writing process. Wolcott begins with a discussion of getting started with your writing

project and ends by guiding your project through the publication process. Each chapter offers practical advice for overcoming potential obstacles as well as tips for making the project your own in the context of academic fields that often demand formulaic writing.

Wolcott's advice is highly individual, and much of it involves strategies for finding the techniques for writing and editing that best fit you as a writer. For example, he discusses the importance of choosing a time and setting for writing, when to write without interruption and when to review your writing, and when to ask for help with revision. This kind of material is rarely spelled out in this manner; it is usually something writers learn on the job through long and sometimes painful experiences. Wolcott explains his points in a friendly and accessible manner, which makes the book feel like a lively conversation with a colleague rather than an academic treatise on writing.

Much of the advice Wolcott offers is entirely new to me. I have read other books on writing and publishing—such as *Getting It Published* by William Germano (University of Chicago Press, 2008)—but Wolcott's take on the writing process reformulates much of what I have thought of as “truisms” about academic writing. For instance, the chapter “Linking Up” explains how to choose a theory that fits the project rather than working to make the data fit a particular theory: a pitfall that many graduate students and new professors make in their first attempts at research.

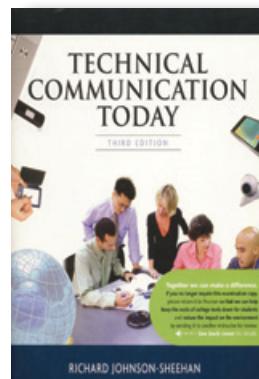
Writing Up Qualitative Research is a valuable resource for academic writers at any stage of their careers. Graduate students will find the discussion of breaking out of the prescribed formulas of the dissertation genre very helpful. New academics will enjoy the advice for keeping writing relevant to the audience, as well as the chapters on negotiating the publication process. Even seasoned academic writers will not go away from Wolcott's book empty-handed, because it contains advice for guiding new writers and graduate students. *Writing Up Qualitative Research* is an enjoyable, refreshing, and useful monograph, and I know I will be using it for advice and inspiration for years to come.

Nicole St. Germaine-McDaniel

Nicole St. Germaine-McDaniel is a senior member of STC and head of the Technical and Business Writing Program at Angelo State University. Her research interests include technical communication for a Mexican-American audience and technical communication in the health fields.

Technical Communication Today

Richard Johnson-Sheehan. 2010. 3rd ed. New York, NY: Longman. [ISBN 978-0-205-63244-2. 760 pages, plus appendixes, references, and index. US\$100.00 (softcover).]



Technical Communication Today is the latest version of one of the best of the big, comprehensive textbooks designed for undergraduate introductory technical communication courses: courses critical both for developing the skills of workplace professionals and for establishing their attitudes to our field and to us, as specialists within it.

The standout strengths of this book for students and teachers alike are the way current technologies are presented as transformative, the variety of support materials provided, and the encouraging approach to explaining traditional technical communication topics.

With respect to technologies, the book's premise is that computers are “thinking tools” that help writers work better, so embracing and mastering new communication technologies can be both exciting and critical to professional success. As a result, the book does not isolate its discussion of technology applications (as some textbooks still do) but instead integrates discussions of technology use throughout. Such treatment is likely to whet the appetites of technologically savvy students for studying technical communication; it also may help some teachers better value and welcome technology use.

Augmenting this strength are numerous teaching aids that demonstrate software applications, provide examples and links to current tools and information, and offer how-to tips and advice from practitioners. Other textbook elements are particularly well done, including a thorough companion Web site, practical exercises (such as documents provided as “revision challenges”), and practice-what-you-preach design features.

Complementing all the fresh material are extended, intelligent treatments of the classic principles and methods of technical communication, including those of rhetoric,

genre, and process, topics richer for being combined with new content. For example, the book describes technical communication in terms of “how information flows,” leading to a more active definition of the communicator’s role that identifies up-to-date methods for achieving goals (such as using search engines to profile readers). Using a motivating tone and accessible style, the book draws on familiar experiences to explain concepts in a way that should foster practice and innovation.

Teachers who have used previous editions of *Technical Communication Today* will be pleased to know that this book substantially improves upon the 2007 version, with revisions that go beyond cursory updates to add critical new topics (such as text messaging and translation tools), more helpful examples, and thought-provoking ethical case studies. The instructor’s edition of the text specifically delineates these changes, making it easy to update lesson plans and assignments.

The downsides of this book both mirror its strengths and are endemic to its type. First, however quickly a textbook moves from draft to market, that timing can never be quick enough to keep it fully current with changes and options in tools and workplace practices. Second, comprehensiveness requires covering a lot of material, much of it cursorily, which can lead to a sense of overload and to shallow treatment of important topics. This might especially be a problem for science and engineering students, who may need less general information about professional writing and more specifics about conventions in their own specialized fields. For this reason, future editions might reduce or eliminate coverage of less critical topics (such as studying word origins by means of the *Oxford English Dictionary*). Another artifact of comprehensiveness is that the many navigational aids, marginal cross-references, screenshots, highlights, callouts, and other graphical features in this book threaten to overwhelm with a confusion of colors and elements, undercutting the purposes for which those features were designed.

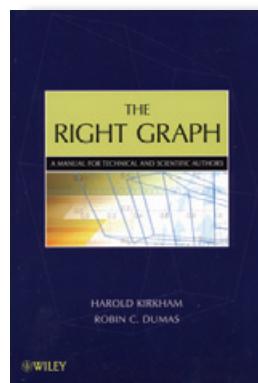
However, the tweaks that might make this a better book for some might make it a less helpful resource for others. As a wide-ranging text that covers the fundamentals of a broad and progressive field, the newest edition of *Technical Communication Today* manages quite effectively the tough balancing act of being appropriately technology-centric yet also grounded in the basics that remain as critical as ever for those studying and entering our field.

Lu Rehling

Lu Rehling is an associate fellow of STC and a professor in the Technical and Professional Writing Program at San Francisco State University. She has worked extensively in industry as a writer, editor, trainer, manager, and consultant. Her PhD is from the University of Michigan.

The Right Graph: A Manual for Technical and Scientific Authors

Harold Kirkham and Robin C. Dumas. 2009. Hoboken, NJ: John Wiley & Sons, Inc. [ISBN 978-0-470-40547-5. 379 pages, including index. US\$69.95 (softcover).]



The back cover of *The Right Graph* claims that the book “arms you with all you need to know to conceptualize, create, and incorporate the type of quality graphs and graphics that will help get your scientific and technical papers published.” A rather tall order. While I don’t think the book fully delivers on this promise, it does offer numerous guidelines and a great deal of straightforward advice presented engagingly.

You’ll find conceptual information about designing graphs primarily in chapters 1 through 3 (arguably the most valuable in the book) and the chapter “Style Matters.” The first three chapters offer guidelines for determining the most appropriate type of graph and ensuring the effectiveness of a variety of graph types, reinforced by many helpful examples and clear explanations. “Style Matters” includes additional tips for achieving clarity and establishing a consistent and effective style.

A significant portion of the chapter on textual aspects of graphics (labels, captions, callouts, and so on) discusses typefaces. The advice given is for the most part sound, although there is a tendency to oversimplify and even ignore relevant research. For example, contrary to the authors’ claim, readers may, in fact, have trouble comprehending text set in all caps. Additionally, an evaluation of graph design that says “It

really doesn't look 'right,' somehow" (p. 105) does not help you understand how to avoid problems in your own graphics. Still, the chapter includes useful advice that supports the goals of the book.

Unfortunately, at this point *The Right Graph* veers from offering guidance on designing effective graphs to providing tips that are both basic and general, sometimes in chapters that don't really belong in the book. For example, the chapter "Getting the Most Out of Your Software" includes pointers such as using keyboard shortcuts and copying and pasting, reminding you that "using the mouse to select options from a menu is sloooooooooow!" (p. 141). Similarly, the chapter on organizing and giving a presentation offers little detail about designing your slides. Likewise, the chapter on perspective seems an odd inclusion, given the authors' stance that "perspective is rarely needed in a technical drawing" (p. 297).

Discussions of software include an interesting but nonessential brief history of the spreadsheet, instructions for making graphs in Excel and Quattro Pro behave, and importing and improving those graphs in PowerPoint and Presentations. Users of Excel and Quattro Pro are likely to find the textual repetition between chapters annoying. In contrast, the chapter "Fixes Using Graphics Programs" discusses principles instead of providing details for each software package, allowing the authors to cover more ground in less space, an approach that would also have been effective in the preceding chapters on software. Finally, the chapter on file formats concludes that converting files is generally time-consuming and imperfect, a fact with which I expect most technical communicators are already familiar.

These issues notwithstanding, the book contains a wealth of advice and helpful visual examples (some duplicated on color plates that make the visuals both clearer and more attractive), although, ironically, some of the figures are pixelated or difficult to read. Almost all chapters also include exercises, which, although perhaps more at home in a textbook, are potentially useful if you want to practice applying the material before you work with your own data. Unfortunately, the lack of solutions diminishes the helpfulness of the exercises. Each chapter also includes a bulleted list that gives readers a quick summary of the key points of the chapter; oddly, the 15-page final chapter reiterates these summaries.

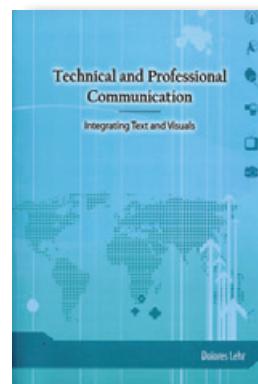
In the end, I appreciate Kirkham and Dumas' conversational style and use of humor, which make their manual considerably more user-friendly than most. At the same time, I find myself wishing that *The Right Graph* were briefer and more focused, bypassing some of the quirky anecdotes and extraneous material to get to the essentials more quickly.

Eva Brumberger

Eva Brumberger teaches professional communication at Virginia Tech. She has worked as a technical writer/editor on both a full-time and a freelance basis. Her research interests include visual communication, international communication, and pedagogy. She is a member of STC and was president of the Border Network Chapter.

Technical and Professional Communication: Integrating Text and Visuals

Dolores Lehr. 2009. Newburyport, MA: Focus Publishing/R. Pullins Company. [ISBN 978-1-58510-257-0. 212 pages, including index. US\$36.95 (softcover).]



As expressed in the title, Dolores Lehr has a specific purpose for her book. Her approach to technical communication is to treat text and graphics as a comprehensive unit rather than let graphics play second fiddle to the text.

Lehr follows through with this concept by being generous with graphics, using them in conjunction with text to explain important aspects of technical communication, features of specific documents, and even the mundane side of writing.

Technical and Professional Communication: Integrating Text and Visuals is divided into four parts: "Planning Documents," "Composing Text and Generating Graphics," "Integrating Text and Graphics," and "Appendices." Each chapter begins with objectives and ends with a usable checklist and exercises that reinforce the content.

Part One goes from the practical to the creative, from legal and ethical issues to gathering and evaluating information, to drafting and sketching. Drafting and sketching entail brainstorming, free writing, and mapping for idea development; sketching pages and illustrations for page layout; and preparing preliminary drafts.

The other parts cover the more familiar aspects of technical communication of writing and using tables, figures, color, and graphic elements. What makes this book different from most technical writing books is the way Lehr handles examples, both graphical and textual, of various documents that are common to technical communicators: instructions, proposals, reports, correspondence, guides and promotional materials, and oral presentations.

Descriptions of these documents and their requirements are brief but not sparse. Each document is shown in a graphic while Lehr explains internal components and use of the documents, with topical tips given where applicable. This book will not make you an expert on each document type, but it does ensure that you will have more than a passing acquaintance with it. Document layouts are shown with appropriate textual content. In at least one instance—instructions—includes additional ways an instruction could be worded and advises on the best version.

It is a shame the publisher didn't use higher quality paper, which would make this book a better reading experience. Faint outlines of text and graphics show through the page, and the contrast of text against the page could be stronger; reading in dim light can be tricky. The paper quality is especially disappointing, because the book includes excellent reference material that you would likely want to note or highlight. Such notes and highlighting will partially obscure the text on the other side of the page.

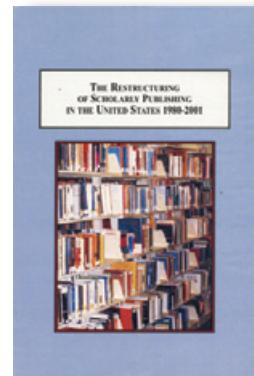
Overall, the book is an excellent introduction to document planning and creation for novices and a good reference book for more experienced writers.

Sherry Shadday

Sherry Shadday works for Southwest Research Institute in Layton, UT, as a principal instructional specialist creating print, stand-up, and Web-based training. An STC member, she received a technical communication master's degree from Utah State University. Previously, she served 21 years in the U.S. Air Force, maintaining aircraft electrical systems.

The Restructuring of Scholarly Publishing in the United States 1980–2001: A Resource-Based Analysis of University Presses

Barbara G. Haney Jones. 2009. Lewiston, NY: The Edwin Mellen Press. [ISBN 978-0-7734-4727-1. 424 pages, includes index. US\$129.95.]



In her meticulous study, Barbara G. Haney Jones interviews more than 30 directors of university presses to identify factors that have influenced their restructuring since 1979 and strategies employed to help the presses stay afloat in spite of financial cuts and a shifting publishing market, including changes in technology such as electronic publishing avenues. Jones hypothesizes that university presses with greater resources would be more apt to experiment with new modes of advertising, printing, and publishing, whereas smaller presses with fewer resources would stick to business-as-usual in the face of change. Although Jones basically finds support for her hypothesis, during the interviews she also discovers how even some of the smaller university presses with limited resources were able to survive because they were willing to take some risks.

Rare is the reader of *Technical Communication* who is not aware of the current economic crisis and the effects on our profession. We have all received e-mails from STC over the past year about budget constraints and efforts to remedy the financial dearth. What Jones has done in her study, though, is to examine some 30 years of change and several influences on university presses, all of which have had an impact. Her interviews and data analysis are based on her dissertation research from the mid-1990s.

So what are the major factors influencing the constant restructuring of university presses? Jones says the number 1 factor is the “publish or perish” pressure on professors in the social sciences and humanities to publish monographs, which the presses often just can’t sell. Although a couple of decades ago the presses were subsidized by the university and such monographs were more viable, today’s market does not lend itself to niche research publishing. Jones cites one press director who

remarks that such books “are too long and that the information could just as well be published as an article” (p. 330). The university presses, for the most part, want to move away from the highly specialized research dissertation-turned-monograph at a time when most research institutions are still pressuring their tenure-track faculty to publish books.

The irony, of course, is obvious. Jones’s book itself is a dissertation-turned-book. However, her situation is unique: Before, during, and after her dissertation, Jones worked as the controller for the Edwin Mellen Press. Her position and experience offer valuable insight into why university presses are struggling and what they are doing to adjust to financial pressure and changing markets.

Another influence on university press restructuring is library budgets and acquisition. As university libraries suffer increased budget cuts, the resources they tend to cut first are books. Why? Because librarians feel pressured to maintain subscriptions to certain journals, and these journals, especially in the sciences, have increased exponentially in price. Since the libraries must carry the established and expensive journals even in a budget crisis, there is less demand for university presses to publish specialized academic books. Besides, online journal issues are easier to store in cyberspace than a bunch of hardcover books collecting dust on library shelves.

To combat the reduction in demand for research monographs, some university presses are exploring electronic publishing. Because interlibrary loan departments have all but eliminated many research professors’ need to buy academic texts, some publishers, including university presses, have turned to on-demand purchasing of electronic texts. Although not a university press, STC offers access to articles through online purchase. For example, you can download a copy of Jo Mackiewicz and Kathy Riley’s “The Technical Editor as Diplomat: Linguistic Strategies for Balancing Clarity and Politeness” from the February 2003 issue of *Technical Communication* for just \$5.95 from Amazon.com. In addition, to combat the purchasing fatigue of research monographs, some university presses make up to a third of their list trade books. Custom publishing, particularly in the textbooks, also has created increased revenue for some university presses.

In terms of approach, Jones’s book gets off to a slow start. She repeats her hypothesis and research

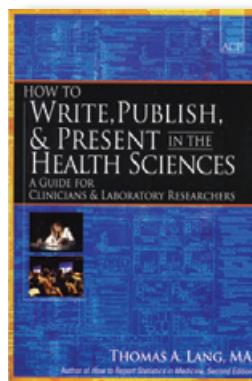
question several times in the first 30 pages. Although this repetition may be an element of the dissertation or study format, I find the loss in momentum almost staggering at times. Some parts of the table of contents are mismatched with the text itself or have erroneous repetition (for example, 3.2.6 and 3.2.7 have the same title). Despite some cosmetic and stylistic issues in the beginning, however, what Jones offers in the remaining 400 pages is indeed a rigorous and eye-opening study that reveals not only exactly what is causing the downturn in scholarly book publishing with university presses but also how university press directors feel about the shift and the steps they have taken, are taking, and plan to take to survive in a changing publishing market.

Nicole Amare

Nicole Amare is a senior member of STC and an associate professor of technical communication at the University of South Alabama. Her research interests include ethics, editing, and visual rhetoric. She is associate editor of *Industry Practices for IEEE Transactions on Professional Communication*.

How to Write, Publish, and Present in the Health Sciences: A Guide for Clinicians and Laboratory Researchers

Thomas A. Lang. 2010. Philadelphia, PA: American College of Physicians. [ISBN 978-1-934465-9-4. 383 pages, including index. US\$59.95 (softcover).]



Thomas Lang has written the book I would have written. When I began teaching technical writing in 1971, I couldn’t find a textbook that discussed audience, nor was there one that provided authentic examples from industry. By 1987 I decided that the only solution to providing my students with a textbook that included the information I believed they needed was to write my own book. In fact, I wrote two.

When I began teaching medical writing in 2008, I thought I might have to do it again. Almost all the medical writing texts have been written by health professionals (doctors and scientists) or academicians

rather than writers, and they lack a professional writer's perspective.

Then Thomas Lang published his book—the book I would have written. This was the book I needed to teach my course.

A former technical writer and academician, Lang has taken the research results from a quarter century of communication studies and adapted them to the medical world with which he has become familiar as a consultant the past 20 years.

The book is aimed at anyone who will be writing and presenting in the health sciences, including nurses, clinicians, medical technicians, biomedical scientists, physicians, and medical writers. It is specifically focused on writing proposals and research article results. Lang divides the book into three parts: (1) writing in the health sciences in general, (2) publishing in the health sciences, and (3) presenting in the health sciences.

The opening chapters provide a framework for anyone engaged in some form of technical communication, not just in the health sciences. The first chapter is unique among medical writing texts: Lang provides a historical overview of the discipline, going back to the earliest known Egyptian medical text in 1700 BCE. He goes on to include the Greek development of idiographic script, Johnson's publication of the *Dictionary of the English Language*, the Royal Society's first scientific journal, the first medical library in Philadelphia, and the introduction of the *Journal of the American Medical Association* (now *JAMA*). Bringing the overview up to date, he lists such recent (2009) guidelines as the CONSORT, QUOROM, and TREND statements, and such reporting standards as the Minimum Information for Biological and Biomedical Investigations (MIBBI). In addition, he provides a section on the latest technological innovations, such as e-prints, open-access publishing, and self-archiving. I find this chapter fascinating, as I think others will.

The chapter "How to Write Effectively: Making Reading Easier" describes how the reader relates to a text rather than how the writer relates to a reader, as is found in most technical writing books. Lang explains what academicians mean by writing reader-based prose and, more importantly, why writers need to write this kind of prose. He delineates four features—comprehensibility, recallability, "referenceability," and usability—that readers need to strive for in a medical document if they are to effectively make a decision or

follow a procedure, the two major purposes of technical documents. He continues in this and the following chapter to provide recommendations for successfully implementing these features. While he discusses many of the techniques usually suggested in technical writing texts—use familiar words, make sure phrases and clauses in a list are parallel, and don't nominalize verbs—he adds some clarifications from his own experience as a writer that are supported by linguistic research. While he recommends short sentences in most cases, he says it is not length but syntactic complexity that impairs comprehension and clarity. In terms of using active rather than passive voice, as most texts do, he adds a caveat (with examples) that the passive is sometimes more appropriate.

Lang devotes three chapters to graphic display. He focuses on the writer's purpose in displaying data or images and then provides recommendations for using the appropriate visual form, thus invoking Louis Sullivan's axiom "form follows function." Providing full color, myriad examples, and appropriate alternatives, he goes into detail on such matters as how to help readers analyze data in tables and graphs, perceive patterns in data, and compare data; how to prepare drawings and photographs with the desired quality; and how to document biomedical images. Some of this discussion is specific to particular specialties, such as MRI scanning and genetic sequencing.

The book provides excellent discussions of abstracts, grant proposals, and research articles. The chapter on abstracts is one of the most detailed I have ever encountered—it delves into descriptive, informative, and structured abstracts. Best of all, Lang suggests ways to reduce word count, an extremely important but frustrating aspect of writing an abstract. The excellent advice on grant proposals includes a list of characteristics of successful and unsuccessful grant proposals, as well as an explanation of how funding agencies and grant/contract offices evaluate proposals. Finally, the chapter on journal articles includes tips on such topics as budget, equations, measurements, references, and statistical methods.

The section on publishing includes discussions of ethics and the process of publishing a journal article, from submission through the peer process to production. Only an experienced writer could give neophytes such helpful advice as the following: "FOLLOW THE INSTRUCTIONS FOR AUTHORS

EXACTLY!” (p. 269) and “If you do not hear from the journal within 60 days after submitting your manuscript, contact the editor” (p. 275).

The section on presenting looks at creating posters and slides. It offers useful advice on, for example, limiting the amount of text, avoiding three-dimensional images in graphs, using sans serif type, developing tabletop posters, and selecting font size and display orientation. This section, like the first, applies to anyone involved in presenting a technical topic.

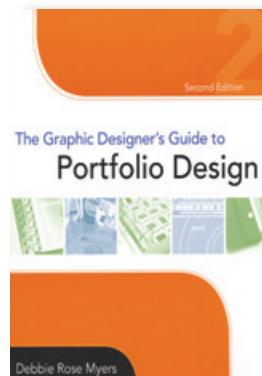
Lang offers explanations and information to assist anyone who is interested in writing and presenting medical/scientific information. I am only sorry he doesn’t include patient education materials. Perhaps he could add an addendum in the future.

Carolyn Boiarsky

Carolyn Boiarsky is a professor of professional communication at Purdue University Calumet. She has written two textbooks, *Technical Writing: Contexts, Audiences, and Communities* and *Writings From the Workplace*. She formerly consulted with the nuclear power industry for her firm, Effective Communication Associates. She began as a United Press International correspondent.

The Graphic Designer's Guide to Portfolio Design

Debbie Rose Myers. 2009. 2nd ed. Hoboken, NJ: John Wiley & Sons. [ISBN 978-0-470-18476-9. 262 pages, including index. US\$45.00 (softcover).]



Can a book titled *The Graphic Designer's Guide to Portfolio Design* be useful to a technical communicator? The answer is “Yes!” This compact, friendly book offers value to a technical communicator who’s starting out or hasn’t put together a portfolio in a while.

Debbie Rose Myers’s style is welcoming, as if she’s leading a small tutorial session in designing a portfolio, overcoming your initial reaction that you don’t need help. I now see that I *do* need help, or at least tweaks,

to update my portfolio. The book focuses mainly on designing an electronic, 21st-century portfolio.

Each chapter gives real-life examples from Myers’s experience or that of her students. In the valuable “Interview” section of the chapter, practicing graphic designers answer honest and informative questions about the interview process, such as “What qualities do you look for in an applicant?” and “What makes a successful interview?” They’re most blunt and practical in their answers to “What are the five best things job candidates say that impress you during an interview?” and “What are the five worst?” You can use chapter exercises (“Designer’s Challenges”) to create a portfolio.

Myers argues well that “a designer will always be judged by the weakest pieces in the portfolio” (p. 10), a theme she emphasizes throughout. The chapter “Planning Your Portfolio” includes a checklist of pieces you might include, with specifics for each category. Obviously, you will adapt the list to your specialties. The chapters on the traditional paper portfolio include a list of action verbs, a great tool to use in writing your résumé. Myers’s examples of display options gave me suggestions for updating my paper portfolio. The summary checklists on interviews and the examples of thank you notes show reflect her experience.

Many details on digital portfolios will appeal mainly to readers with less experience. Graphic design students and experienced technical communicators, for example, will find the material on page layout programs, clip art, and construction of a Web site too elementary. Myers’ section on creating an “artist’s statement,” however, challenged me to work on my own writer’s statement, a new element that I’ll include in my updated portfolio.

One annoyance is a design miscue that is not Myers’s fault. The color bleeding on the edges of the pages has no function, because the edges aren’t staggered to correspond to the chapters.

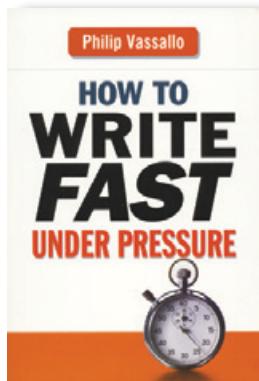
In all, this is a good reference book for recent graduates as well as experienced professionals.

Beth Lisberg Najberg

Beth Lisberg Najberg is an instructional designer based in Chicago. She develops technical training for frontline workers, incorporating graphics and job aids so procedures, processes, and concepts are easy to follow. She is principal of Beginnings, an information design consulting firm.

How to Write Fast Under Pressure

Philip Vassallo. 2010. New York, NY: AMACOM. [ISBN 978-0-8144-1485-9. 195 pages, including index. US\$18.95 (softcover).]



In the spirit of *How to Write Fast Under Pressure*, I procrastinated writing this review until the day it was due to instill a sense of urgency and see if I could put some of Philip Vassallo's advice to use. The purpose of the book, as the title suggests, is to provide tactics for writers who have difficulty overcoming writer's block or

hitting deadlines. And while Vassallo describes useful writing practices, one would be hard-pressed to find a professional writer who has not discovered them on his or her own. A good audience for the book, then, would be novice writers who are new to the workplace.

Vassallo positions his narrative around a hypothetical set of employees at a hypothetical company working through fairly common writing situations—proposals, requisitions, e-mails. The pressure of looming deadlines is always present. One employee is disciplined and seasoned; the other lacks confidence and is fairly new to his role. As in many business self-help books, the dialogue in this book is flat and the commentary overly didactic.

The author focuses on four areas: direction, acceleration, strength, and health (DASH). Direction involves understanding the purpose for the writing task at hand, being clear on the time parameters, and delineating an efficient process to get the job done. Vassallo reviews basics such as the writing process and the use of document templates.

Acceleration is about maintaining momentum. Here the author provides tips on getting organized and reducing complexity. One tidbit he offers for managing e-mail, which I found myself following the next day at work, is the four Ds—delete, delegate, defer, do. Within seconds of scanning an e-mail, you should be able to determine which “D” is most applicable. My favorite is delete.

In his chapter on strength, Vassallo shares ideas to help the burgeoning writer develop good writing habits and produce quality work. The guidance proffered

ranges from establishing a comfortable writing environment—ergonomics, lighting, temperature—to having good resources at hand and mastering different levels of editing.

In the health section, the author discusses writing as a therapeutic activity that can help you “heal physically and emotionally” (p. 135). Although the thesis seems a bit flighty, Vassallo shares some of his better insights here. For instance, he instructs you to develop thick skin in dealing with criticism—the goal is to learn to make constructive use of it. He also suggests you should expect the unexpected and learn to enjoy planning as well as reacting, all of which is good advice.

Altogether, *How to Write Fast Under Pressure* isn't a bad book. It could be helpful for a person without a writing background. For a professional or experienced writer, however, it's much too elementary.

Gary Hernandez

Gary Hernandez is a communications manager for BP. He received an MA in English literature from George Mason University and an MS in technical writing from Utah State University. He belongs to STC and the International Association of Business Communicators.

The Backchannel: How Audiences Are Using Twitter and Social Media and Changing Presentations Forever

Cliff Atkinson. 2010. Berkeley, CA: New Riders. [ISBN 978-0-321-65951-4. 226 pages, including index and photo credits. US\$34.99 (softcover).]



Whether you are an experienced participant in the backchannel or unfamiliar with the term and associated activities, this book could be an eye-opener. *The Backchannel* confirms that expert users of this technique of adding to (or hijacking) conference presentations have diverted the flow of the old river of presentation methods and audience behavior. Atkinson believes that the diverted river is picking up speed, and those who do not use the

backchannel may be left behind on the river banks. But those who embrace the backchannel can influence the course of the river to their own benefit.

Yes, Atkinson champions the use of metaphors. He also provides fascinating anecdotes of backchannel incidents, supported by photographs, illustrations, and trenchant quotations. Atkinson defines *backchannel* as “a line of communication created by people in an audience to connect with others inside or outside the room, with or without the knowledge of the speaker at the front of the room” (p. 17). It is a silent conversation conducted on laptop computers and smartphones using Twitter.

Atkinson writes in a breezy, compact style. Into the river of the backchannel he launches a barge full of convincing true stories of how audiences at technology conferences have either supported or disrupted speakers through on-the-spot communication with the audience members’ own Twitter followers. Conference by conference, speaker name by speaker name, author by author of tweets—all are revealed in a colorful, convincing story of mutiny on the ark by tweeters who want to comment on or influence the presentation.

Although he presents a solid chapter on the drawbacks of the backchannel, Atkinson clearly believes that it is an ineradicable and spreading feature of conference presentations and that presenters should use it to their own advantage.

First, become an expert with Twitter and other social media. Discover whether your upcoming conference will supply meeting rooms with wireless and mobile phone support. If yes, use social media—your Web site, your blog, e-mail, YouTube, SlideShare, Twitter—to build anticipation for your presentation. Next, prepare a presentation (with or without illustrated or text-only slides) that focuses on a few key points worded so briefly that they can be forwarded as part of a 140-character Twitter message. At the start of your presentation, acknowledge the presence of the backchannel, display audience tweets on your own laptop via the conference projector, and make backchannel comments a part of your discussion with the audience.

These activities require considerable preparation and expertise. To help readers, Atkinson provides plenty of advice. Some of it is basic: how to set up a Twitter account and how to condense the main points of your presentation into Twitter-friendly length. Other advice builds on the basics: how to obtain a Twitter hashtag (identifier) for your conference session and an

abbreviated link to your blog or Web site for inclusion in Twitter messages. The advice increases in sophistication: Use social media to build buzz before the conference, engage thoroughly with the backchannel during your presentation, learn to handle negative tweets skillfully, and follow up after the conference using social media.

This quick read so energized me that I immediately went to the Web to learn whether my next conference plans to supply hashtags for all sessions and whether the session rooms are going to support the Internet and smartphones.

Two messages dominate Atkinson’s book. First, audiences want to participate in presentations rather than be silent observers. Second, the “Law of Two Feet” (p. 82) applies: The audience will walk out if your presentation is not useful, meaningful, well researched, and up to date.

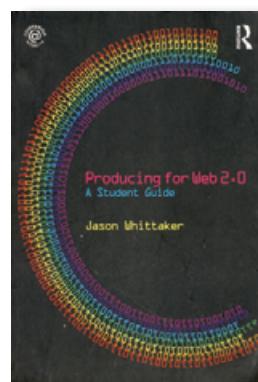
So let’s load that barge and head down the river!

Ann Jennings

Ann Jennings is a senior member of STC, professor of English, and coordinator of the MS program in Professional Writing and Technical Communication at the University of Houston-Downtown.

Producing for Web 2.0: A Student Guide

Jason Whittaker. 2009. 3rd ed. New York, NY: Routledge. [ISBN 978-0-415-48622-4. 272 pages, including index. US\$39.95 (softcover).]



If information about planning, setting up, and managing a Web site using Web 2.0 interests you, the third edition of *Producing for Web 2.0* could be a good read. You’ll find an eclectic and useful overview of current technologies available for online communication using Web 2.0 tools.

Of special interest are answers to questions such as What is Web 2.0? How can you customize a blog to better use Web 2.0 technologies? How important is it to know Dreamweaver to do Web work? How does a content

management system (CMS) fit in? What are the elements and attributes of XHTML?

Even Tim Berners-Lee, the inventor of the World Wide Web, notes about Web 2.0, “Nobody even knows what it means” (p. 2). According to Whittaker, the term, coined by Dale Dougherty of O’Reilly Media and Craig Cline of MediaLive, refers loosely to platforms and technologies that represent new Web developments. Instead of the static information common to Web 1.0, the author notes that Web 2.0 makes greater use of data dynamically and includes applications such as video, audio, and Really Simple Syndication (RSS) feeds.

The sections on customizing a blog with Web 2.0 contain useful step-by-step directions for using Feedity.com to work with RSS feeds. The author notes that “WordPress is one example of blogging software that you can install on your own site and fine-tune to match templates and styles used with your other pages” (p. 138).

Samples and codes from the book appear on the companion Web site (<http://www.producingforWeb2.com>), which also includes information on new developments in Web production and design. The information about CMSs covered on this site and in the book reflects the hundreds of CMS applications available today.

Among the most useful tips for written content are these: select an audience, write as you speak, use the pyramid technique, use links, and become a reader. The pyramid technique in news journalism tells the story at the beginning and expands from there. Originally a useful technique to allow editors to cut stories from the bottom up to save space, the technique can be useful on the Web to accommodate readers who may wish to quickly move on to other pages.

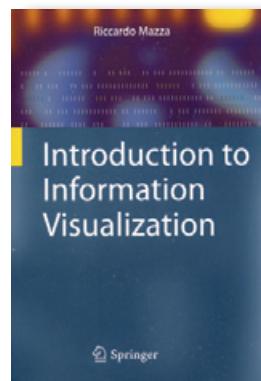
The author’s personal viewpoint comes through when he discusses both technology and writing skills. He is on target when he says, “While . . . coding skills are essential for the modern Web producer, the fact remains that the vast majority of content online consists of text. For this reason, the ability to write well to attract your audience’s attention cannot be underestimated” (p. 196).

Jeanette Evans

Jeanette P. Evans holds an MS in technical communication management from Mercer University. She has more than 20 years of experience in the field and has published in *Intercom* and presented at several STC conferences. An STC associate fellow, Jeanette is active in the Northeast Ohio Chapter.

Introduction to Information Visualization

Ricardo Mazza. 2009. London: Springer. [ISBN 978-1-84800-218-0. 139 pages, including index. US\$49.95 (softcover).]



Open any technical writing textbook (even some of the very earliest ones) and you will find a section or a chapter on creating visuals to support the assertions made in the text. As far back as 1970, you will find whole books devoted to visualizing information. Mazza’s *Introduction to Information Visualization* follows in this tradition.

After an opening chapter in which he describes what he means by *visual representations*, Mazza moves to chapters on how to create visual representations as well as how readers perceive visual representations. The next three chapters describe various ways data can be presented, including multivariate analysis, networks and hierarchies, and the World Wide Web.

He then turns to the problem of information overload and describes several situations in which the presentation method affects the way users perceive information. The key to user understanding is whether the user can manipulate the view of the data or the source of the data and the mapping process. Both approaches help the user analyze what he or she is seeing and draw insights from the data.

The book adds to stand-alone graphics books that range from the simple (A. J. MacGregor, *Graphics Simplified* [University of Toronto Press, 1979]) to the encyclopedic (Robert L. Harris, *Information Graphics* [Management Graphics, 1996; reviewed in the May 1997 issue of *Technical Communication*]) to the highly theoretical (William S. Cleveland, *The Elements of Graphing Data* [Hobart Press, 1994; reviewed in the August 1996 issue of *Technical Communication*]) as well as the seminal work of Edward Tufte. Also included in this collection of works is the special issue of the *IBM Research Journal* devoted to visualizing massive amounts of data. However, of this group, Mazza mentions only an article by Cleveland.

In eight well-illustrated chapters, Mazza moves you through basic theory and simplified visualization techniques to reader response theory and highly

complex techniques. The book's title tells you exactly what to expect. He shows you what is possible but tells you very little about how to do it. When he describes a particular way to present highly complex data using computer software packages, he provides a footnote containing the URL for finding that software.

Mazza's examples are from computer presentations of complex data. For example, he shows a way to present computer usage by students in 345 online classes on a single screen by conveying information for individual courses at the pixel level and using color to indicate usage by the course. Presumably, one could insert a visual presentation into a document, but he does not address that issue.

The book addresses what he sees as the main problem in designing a visual representation: "creating visual mapping that, on the one hand, faithfully reproduces the information codified in the data and, on the other, facilitates the user in the predetermined goal" (p. 24). This emphasis on the user culminates in an entire chapter on evaluating the effectiveness of the visual presentation. This chapter will be quite familiar to those who regularly do usability studies. While not specifically adding anything new, its very presence in a book on visual representation is unusual.

Mazza makes clear that the book is meant to be a textbook for a course in information visualization. It certainly would be an effective text for such a course extending over 16 or 17 weeks, but the instructor would need to add material, especially on how to actually create the different visual types.

As mentioned before, the final chapter explores evaluation. Principally, the designer needs to evaluate the presentation correctly so that it "can reveal potential problems and indicate which actions have to be carried out to improve the quality of the visual representation" (p. 132).

I find this book highly useful in understanding how to handle massive quantities of data visually. It is an introduction and, if used as a textbook, would need heavy supplementing. If used as a reference book, it points the way to solving problems related to visual representation of data in real time. I think it a useful book for both academics and practitioners.

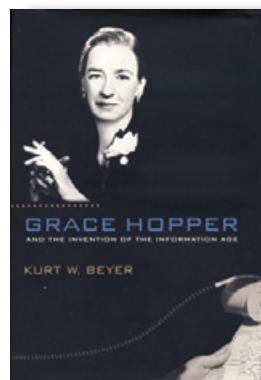
Tom Warren

Tom Warren is an STC Fellow, a winner of the Jay R. Gould Award for teaching excellence, and professor emeritus of

English (technical writing) at Oklahoma State University, where he established the BA, MA, and PhD technical writing programs. Past president of INTECOM, he serves as guest professor at the University of Paderborn, Germany.

Grace Hopper and the Invention of the Information Age

Kurt W. Beyer. 2009. Cambridge, MA: The MIT Press. [ISBN 978-0-262-01310-9. 408 pages, including index. US\$27.95.]



In *Grace Hopper and the Invention of the Information Age*, Beyer weaves U.S. history into Hopper's life in a book that is difficult to put down. Although I was ghostwriter on the college textbook published by West Publishing Company in the 1980s under Hopper's name, I was unaware of the lasting impact of the attack on Pearl

Harbor and the U.S. involvement in World War II on the computer industry. Pearl Harbor created career opportunities for women. At about that time, Hopper divorced her husband, left her teaching position at Vassar College, and joined the Navy.

Beyer includes a humorous quote from Hopper regarding her adjustment to the Navy after her intense teaching schedules at both Vassar and Barnard College. In the Navy, she found an environment where she was relieved of all minor decisions: "I just promptly relaxed into it like a featherbed and gained weight and had a perfectly heavenly time" (p. 33).

The early computers were used by the government to simulate rocket trajectories and the movement of ships. Although the Mark I—the first computing machine used by the government—was thought to do calculations quickly, today's laptop computer has the capacity to process information 333 million times faster. The Mark I (also known as the Automatic Sequence Controlled Calculator) was 51 feet long, weighed 9,445 pounds, and had 530 miles of wiring. Manipulating the hardware of the early computing machines could be dangerous. Beyer notes that operator David Green was

nearly strangled when his tie got caught in the sequence mechanism.

Hopper is credited with finding the first computer bug. Since the windows at Harvard University didn't have screens on them, bugs flew in. When the Mark II stopped running, Hopper found a large moth with a 4-inch wing span beaten to death in one of the relays. The workers used Scotch tape to add the corpse to the log book on September 9, 1945.

Beyer covers many details about Hopper, including the following:

- Was among the first modern programmers.
- Developed a system of documentation within each segment of code.
- Developed COBOL.
- Braved a hurricane in fall 1944 to work in the Harvard Computation Laboratory.
- Used the vanity mirror in her handbag as the preferred tool to inspect the \$750,000 Mark I.
- Developed the first compiler.
- Had a clock in her office that ran counterclockwise to illustrate that there are many ways to conceptualize solutions to problems.
- Helped establish the Association for Computing Machinery.
- Was named the first Computer Sciences "Man of the Year" in 1969 by the Data Processing Management Association.
- Retired in 1986 as the oldest active officer in the Navy.

Hopper died in her sleep on January 1, 1992, at age 86 and was buried in Arlington Cemetery with full honors. Her advice for maintaining a youthful and creative outlook by constantly broadening one's own knowledge base is good advice for anyone.

Beyer not only writes about Hopper's life but strings together the history of computers and details of the lives of others who were involved with the information age into a well-researched book. His vivid writing style and the numerous photos from the archives make past events come alive in the reader's mind.

For those who are interested in the early history of computers and Hopper's involvement in computing, the Archives Center of the Smithsonian Institution's National Museum of American History in Washington, DC, contains many items from the early days of

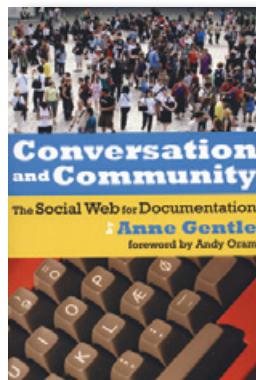
computing, including photos, academic articles, technical notes, manuals, and press clippings.

Rhonda Lunemann

Rhonda Lunemann is a senior technical writer with Siemens PLM Software and a senior member of STC's Twin Cities Chapter.

Conversation and Community: The Social Web for Documentation

Anne Gentle. 2009. Fort Collins, CO: XML Press. [ISBN 978-0-9822191-1-9. 236 pages, including index. US\$29.95 (softcover).]



Anne Gentle's *Conversation and Community: The Social Web for Documentation* is a wake-up call for technical communicators who are still not ready to embrace the social Web that takes them beyond their comfort zone of in-house-produced user guides and online help to the realm of blogs, wikis, and forums.

Accustomed to a more formal writing environment that allows for rigorous editing and complete content control, writers often shun the lax user-generated content populating the Internet. This, according to Gentle, is a big mistake. Instead, professional writers need to view this communication shift as an opportunity to embrace a new collaboration with their online audience. The results will be better served, happier users and continued relevance of the professional technical communicator.

Gentle's knowledge of this growing social Web is vast, and she excitedly shares what she knows. She suggests that blogs and wikis encourage a productive dialogue between writer and users. "Writers have more conversation-starting tools at their disposal than at any other time in history," she explains (p. 14). To help novices understand these social media tools, Gentle dedicates an entire chapter to describing them. She explains in some detail the terminology common in the social Web, terms such as *tagging*, *syndicated content*, and *community*. In addition, she lists online communities

writers may want to consider as they figure out how to insert themselves into the ongoing conversation.

The book hits its stride when Gentle actually connects technical communicators with users, offering specific examples on how writers can ease themselves into existing conversations. I am especially impressed by the reasonableness of Gentle's approach. For example, she does not tell writers to run out and start their own blogs; instead, she emphasizes the responsibilities that come with blogging and recommends serious consideration of all aspects of blogging before entering the fray. For those who are interested in creating blogs, the book offers practical guidance: how to select a platform and how to ensure a supply of fresh posts. It also includes several helpful examples.

In addition to blogs, the book addresses mashup options, wikis, and open documentation systems. Gentle recommends that writers consider mashing user contributions into their formal user assistance, and she provides a list of tools, techniques, and guidelines to help readers get started.

As for wikis, Gentle says, "I believe that wikis encourage crowd-sourcing, or delegating work to a large group of semi-organized individuals (a crowd), and help writers see customers' view points [sic]" (p. 143). She also recognizes the limitations of a wiki: access controls that anger users, output quality issues, and connectivity requirements. For readers who do want to make the move to wikis, Gentle provides a list of wiki features that should be considered when selecting a tool, such as security, support, and usability. She also includes a detailed explanation of how to start a new wiki or revive an existing one. For readers who decide a wiki is not the right fit for their situation, she suggests an online help alternative, along with a list of considerations for choosing one.

After taking writers through the painstaking steps of selecting and implementing the correct social Web technology for their situation, Gentle brings the process full circle, offering tips on writing for this new audience. Acknowledging that social Web documentation is probably not as formal as standard user assistance, she suggests the creation of a separate style guide for the new content. Her other suggestions: be direct and honest, share personal stories, and create snappy titles.

The book concludes with a wonderful glossary of terms, a list of recommended reading, and a comprehensive index. Gentle's book is an irreplaceable

tool for any technical communicator who wants to stay relevant in the field.

Denise Kadilak

Denise Kadilak is an information architect with Blackbaud Inc., a software company based in Charleston, SC. She holds a BA and an MA in English and has worked as a technical communicator for more than 12 years. Denise is a senior member of STC and immediate past president of the Northeast Ohio Chapter.

Fresher Styles for Web Designers: More Eye Candy from the Underground

Curt Cloninger. 2009. Berkeley, CA: New Riders. [ISBN 978-0-321-56269-2. 205 pages, including index. US\$39.99 (softcover).]



The classic publications adage "You can't judge a book by its cover" applies to *Fresher Styles for Web Designers*. With its green and white diagonal pattern offset only by the black title text, the cover style is, well, not very fresh at all! It hardly calls out "eye candy of Web designs."

However, open the book, and, wow! Peruse its contents; read its witty, thought-provoking prose; admire its structure; and enjoy its examples. You will be hooked and want this issue on your bookshelf or even your coffee table.

But wait a minute—why should this author be considered an authority on something as subjective as Web design? In the ever-expanding and morphing world of the Web, it is hard to discern whether an author can be considered an expert. The technology and even the industry of Web design are too new and changes too rapid to judge.

However, take into consideration his predictions from *Fresher Styles for Web Designers: Eye Candy from the Underground* (New Riders, 2001; reviewed in the August 2003 issue of *Technical Communication*), repeated in this book, that the Web would both "become a minimal, text-centric channel of efficient information delivery (the web as database information model)" and "become a high-bandwidth entertainment channel (the web as

interactive TV model" (p. 3). Either this was a lucky guess or the author was plugged in nine years ago. Also, take a look at the trends in experimental Web design he identified in 2001 as being "fresher"—they can still be considered at least fresh, and perhaps even cutting-edge.

Cloninger makes a static presentation feel dynamic while staying true to his intent to take "the samples and examples approach" to teaching design, working backward to distill the basic principles (p. 15). For each of eight categories of style—cleverly labeled, for example, "No Style," "Corkboard Sprawl," and "Hand-Drawn Analog"—he provides a definition, followed by characteristics, influences, examples, and uses. These styles are seen as the beginning of a taxonomy, although there is some blurring between styles.

For the serious Web designer, Cloninger offers serious insights in a humorous way. For the rest of us, he provides delicious food for thought. He describes, for example, three ways to handle unknown browser width: Liquid Layout, Jello Layout, and Ice Layout. He achieves his overriding goal—to get you to think about your own Web design through the styles, examples, and explanations—with flair, as reflected in a quotation from Wolfgang Weingart: "A fresh, exciting, new era was brewing out of authentic creative motivation, and not out of aesthetic formalism" (p. 42).

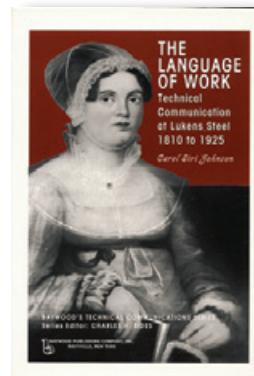
Traditionalist that I am, I appreciate the author's subscription to fundamentals of good writing and layout, particularly in using white space and clearly establishing spatial relationships among the visual elements. At the same time, he has forced me to think outside my traditional comfort zone in terms of design and delivery of Web messages. Cover notwithstanding, the author delivers on the promise of exploring fresher styles through delicious eye candy.

Mark Hanigan

Mark Hanigan has more than 25 years of experience as a technical writer, business analyst, instructional designer, trainer, speaker, and project manager. He has his own consulting company, On the Write Track. He has served in various STC roles at the chapter and Society levels, including STC president in 2000–2001. Mark was elected Fellow in 2005.

The Language of Work: Technical Communication at Lukens Steel, 1810 to 1925

Carol Siri Johnson. 2009. Amityville, NY: Baywood Publishing Company. [ISBN 978-0-89503-384-0. 200 pages, including index. US\$49.95.]



In *The Language of Work*, Carol Siri Johnson traces the emergence and development of technical communication within one company, Lukens Steel of Pennsylvania, over a 115-year period. The book is divided into two parts: "Background," consisting of two chapters, offers a survey of technical communication in the 19th-century American iron and steel industry and presents a history of Lukens Steel; and "Analysis," consisting of four chapters, examines artifacts of the company's communication from 1810 to 1925. Using primary sources from the Hagley Museum and Library, Johnson makes a significant contribution to our understanding of the evolution of technical communication in late 19th- and early 20th-century America.

From 1810 to 1870, the workers at Lukens Steel communicated primarily by word of mouth and body language rather than writing. The earliest forms of written communication were entries in daybooks, journals, and ledgers and correspondence stored in letterbooks. From 1870 to 1900, the company began to rely more heavily on paper for record keeping, paving the way for sophisticated forms of written technical communication. After 1900, the Lukens Steel plant "exploded from comparative silence into a multiplicity of voices" (p. 107) as new genres of technical communication proliferated.

The four chapters in "Analysis" follow a similar pattern: They describe the technologies of the period and then analyze the related genres one by one, allowing us to see the connections between the technologies and the forms of communications that emerged. Each chapter is illustrated by photographs and facsimiles of documents. "Lukens 1900–1915: An Explosion of Technical Communication," for example, reproduces reports, handwritten notes, blueprints, drawings, cards,

a chart, and printed pages. These illustrations effectively complement the analysis in the text.

Johnson makes an observation that might deserve closer study: The company's stenographers and typists were "the mediators of technical communication" (p. 162). These women had a high level of literacy in comparison with others in the company. They were mediators because they transformed oral technical communication into written documents and produced "multiple copies of error-free text" (p. 162). It might be interesting to study their work to see if they can be regarded, in some respects, as the precursors of technical editors in industry.

An interesting argument that Johnson explores in both the introduction and the conclusion is the "literary value" of all texts. Influenced by Elizabeth Tebeaux as well as Foucault, she complains that literature has been defined too narrowly and that technical communication as literature is a prohibited area of inquiry in the academic world. Whereas traditional literature "memorializes an individual consciousness in a state of retrospection," technical communication is "the literature of a group" (p. 5): collaborative, transactional, and commonplace. A company's technical documentation is "a different sort of literature than a novel, but it still tells the story of human lives" (p. 10). Johnson makes an interesting case for including everyday documents in literary studies and for using literary theories and methods in technical communication.

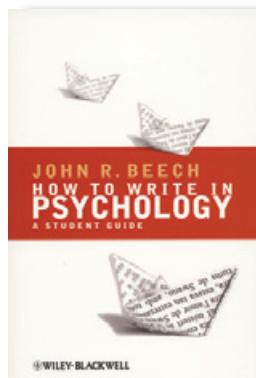
The Language of Work represents a type of historical study that is needed in technical communication: studies of the communication practices of individual companies and industries. Especially in its extensive use of primary sources, Johnson's book should point the way for scholars interested in this kind of historical and rhetorical research.

Edward A. Malone

Edward A. Malone is associate professor and former director of technical communication programs in the Department of English and Technical Communication at Missouri University of Science and Technology. He is a senior member of STC.

How to Write in Psychology: A Student Guide

John R. Beech. 2009. Chichester, UK: Wiley-Blackwell. [ISBN 978-1-4051-5694-3. 256 pages, including index. US\$30.00 (softcover).]



When I started my bachelor's degree program in psychology in 1995, I had no definitive guide to how to write and research in psychology. Like many students, I learned by trial and error what constitutes solid writing for the sciences, often guided only by examples of documents (such as questionnaires or informed consent forms) that other students had written or that the institutional review board at my university gave me as models for my research. I can honestly say that I did not understand the full magnitude of what it took to construct a study, write it up, and try to get it published until well into graduate school. I would have welcomed a book like John R. Beech's *How to Write in Psychology*.

What is most valuable about the book is the sheer variety of writing it covers. Many books attempt to cover only the academic article or work that can be published, but Beech discusses everything from how to study for and respond to an essay exam in the undergraduate and graduate school years, to lab reports, to questionnaire design, to writing recruitment letters to potential participants for a study, and finally to writing the academic article. Further, Beech goes beyond the prescriptive how-tos and checklists and explains the importance, meaning, and uses of each document. He leaves no stone unturned in giving students a solid basis for understanding how to write in psychology.

The only serious criticism I might level at *How to Write in Psychology* is that in places the writing is clearly outdated. For example, Beech demonstrates how to make tables with the 2003 version of Word. This might not seem like a serious matter, but for undergraduate students who try to follow the instructions literally, this section will probably be confusing, since later versions of Word are markedly different. Further, Beech devotes time to discussing writing out exams in longhand, while many students are used to taking exams on a computer.

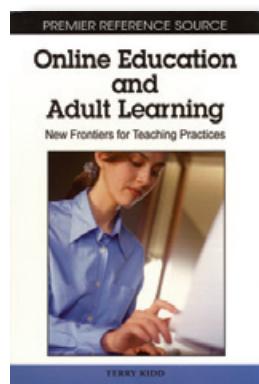
Otherwise, Beech shows a good sense of audience. For example, his discussion of the parts of a quantitative academic article (method, results, and so on) provides a handy checklist for students to use to make sure that they have addressed all applicable criteria. The chapter “Presenting Numbers, Tables and Figures” boils down the conventions of writing in the APA style and includes very helpful examples of naming figures and tables in APA style. Other examples of useful information are using databases such as PsycINFO, finding and citing appropriate sources, and purchasing a field-specific dictionary. A lot of this is very valuable advice that students might not otherwise learn except through trial and error.

The audience for *How to Write in Psychology* is clearly the psychology student, who will without a doubt find the information invaluable. However, because so many of the genres covered by Beech are universal in the sciences and even for topics such as usability in technical writing (such as the lab report and the essay exam), this text could easily serve as a writing primer for students in other disciplines. As a faculty member who regularly teaches upper-level writing, I am very glad to have encountered this text because of its clear, helpful advice. I plan to integrate much of Beech’s advice for writing in some of the technical genres I teach.

Nicole St. Germaine-McDaniel

Online Education and Adult Learning: New Frontiers for Teaching Practices

Terry Kidd, ed. 2010. Hershey, PA: Information Science Reference. [ISBN 978-1-60566-830-7. 352 pages, including index. US\$180.00.]



A compilation of research studies and articles regarding contemporary issues in online education, Terry Kidd’s *Online Education and Adult Learning* will spark some timely conversations that are long overdue regarding adult education and online delivery.

The collection of articles covers three main categories:

(1) “Introducing New Perspectives in Online Learning,” (2) “New Frontiers for Online Teaching and Adult Learning Practices,” and (3) “Case Studies of Online Learning.” Most of the articles in each category are accessible for even new graduate students, but they also address long-standing issues that the most seasoned online instructors regularly face and may find interesting to revisit.

For instance, many online instructors understand that some adult students are technological newbies and may have trouble navigating an online classroom. Exactly how do we help them overcome their fear and feel comfortable with their learning environment? What can we do on our own, outside the scope of our regular online classroom responsibilities, to help these students become technically savvy? What we know about online learners may not always be addressed fruitfully through our teaching, which is why it is important to read studies like those presented in this anthology, in which authors share their successes and failures, as well as contemporary research on the subject.

While the book offers current research in online education, it is difficult to say that any of the information is “new,” as implied by the titles of the three categories. The research and studies are certainly new, and we need to continue research in online education overall, but the issues under study are not necessarily new to anyone who has taught online for a few years. An example is the use of games for adult learners. The concept itself is not new, but it is important to continue talking about this topic, because technology changes so rapidly.

The collection of contributors is diverse, which is an advantage—the reader gets perspectives and study results from those who work at state universities as well as at more specialized or private colleges around the United States. A few articles are included by authors in other countries; more international pieces in the collection would give it a more global perspective.

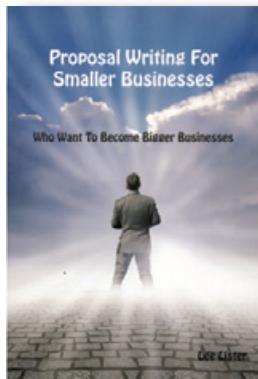
The intended audience is “all major stakeholders” (p. xx), which I interpret to mean administrators and instructors, because the price would most likely prohibit its use as a textbook for graduate students.

Diane Martinez

Diane Martinez is a writing specialist for Kaplan University’s online Writing Center and a PhD student at Utah State University. Her technical writing experience has been mostly in higher education, engineering, and government contracting. She has been with Kaplan since 2004 and a member of STC since 2005.

Proposal Writing for Smaller Businesses—Who Want to Become Bigger Businesses!

Lee Lister. 2009. [Ipswich], UK: Biz Guru Ltd. [ISBN 978-0-9563861-0-6. 101 pages. US\$47.55 (softcover).]



Proposal Writing for Smaller Businesses kicks off with three pages of warnings from the author, who tells us that she does not believe in get-rich-quick schemes and does not guarantee any level of profit based on the information in her 101-page book.

In Chapter 1, Lee Lister states the main reason someone at a small business

would want to spend time writing proposals: to expand the business. Each subsequent chapter discusses the approach and process she recommends to prepare a winning proposal. Although Lister is writing for a UK audience (with Criticisms such as “keep an eye on the adverts” [p. 46]), the book loses only a bit of utility for American (and presumably Canadian) audiences.

Lister’s process is logical, but the information she provides tends to lack detail. For example, in the chapter “Now You Need to Get Writing,” she says that before starting to write your proposal, you need to “find out exactly what your potential client wants—not always what they ask for” (p. 56). What’s missing are tips on how to do that.

The book needs a good copyedit before the second edition is published. It contains numerous typographical errors, dropped words, incorrect words, and acronyms and abbreviations defined on second reference. Adding one or two examples and using them throughout the book would help explain concepts; by the end of the book, this would provide a detailed—and complete—proposal that the reader could use as a template. Lister’s writing is conversational, which isn’t necessarily bad, but it lacks the polish that will inspire small business owners to do their best when penning their first proposals.

Proposal Writing for Smaller Businesses is a basic text appropriate for the business novice who wants to get a fundamental understanding of the proposal process, but to get the next level of understanding, check out

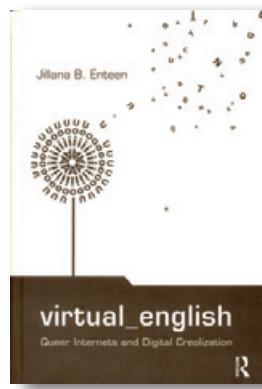
similar titles at the bookstore. You might get more for your dollar (or euro).

Ginny Hudak-David

Ginny Hudak-David is the associate director in the Office for University Relations, the communications unit of the three-campus University of Illinois system.

Virtual English: Queer Internets and Digital Creolization

Jillana B. Enteen. 2010. New York, NY: Routledge. [ISBN 978-0-415-97724-1. 208 pages, including index. US\$125.00.]



Jillana Enteen’s academic text asks an interesting research question: How does nonstandard English play a role in digital communication? Enteen, a professor and director of Gender Studies at Northwestern University, begins with a lengthy, well-annotated essay on *creolization* as a term that denotes

legitimate language rather than the “nonlanguage” designation given by westerners. She then uses this position to state that *digital creolization* is also legitimate and worthy of study, defining it as “an alternative for describing the strategic deployment of English taking place in digital environments” (p. 42).

Enteen’s interests lie in the nonstandard, the queer, the socially divergent, and the underrepresented, all of which make interesting research material, especially when queer theory and cultural studies are the frames for inquiry. She became interested in the interplay of online technology and English-language terms when she was hired to teach a class on “life skills” for urban youth. What began as a graduate student’s idea developed into *Virtual English*, a book that promises an interesting analysis: “Understanding English in digital environments as a Creole emphasizes the creative aspect of language use and assumes that non-grammatical deployments are not mistakes, but poetics” (p. 43). Because I expected to read about the ontology of terms

such as *blog*, I found myself engaged most when she looked at all that is implied in a term like *boot up*, which she traces to everything from the travels of the Baron Münchhausen to Booker T. Washington.

She cursorily examines the idea that catachresis in the digital sphere is more often a deliberate misuse that shows that “meanings can never be fully captured or determined” (p. 40). She addresses inherent heterosexual-normative terms such as *male* and *female* for computer cables and the colonialist undertones behind the terms *master/slave* for a hard disk hierarchy. English is ubiquitous in technology; it’s the default online language, appearing in everything from HTML code to top-level domain names such as *.org* and *.com*. When “others” use English, creolization occurs.

Enteen examines how several science fiction novels create technical terms, play with the English language, and combine English and creoles with technology. This might seem like a tangent, but essentially it’s a shift into a queer theory analysis of a plot line and its connections to language and female power.

If all chapters examined digital creolization, the book would be indispensable for academic technical communicators. Unfortunately, it wanders away from virtual English and shifts to three academic case studies of Internet use in marginalized groups, beginning with the Tamil-Eelam, who are using online space as a way to begin building an independent nation-state. Enteen looks at straight Thai women and gay Thai men, paying particular attention to the sexual stereotypes that westerners have propagated.

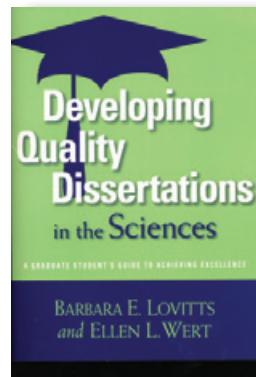
These chapters occasionally point out a creolized term or comment on the use of English, but the diversions aren’t enough to fulfill the promise of language examination that the title of the book suggests. A language enthusiast who is pursuing a PhD might use this academic source as a starting point for research, but the book better serves those in Internet studies or cultural studies.

Kelly A. Harrison

Kelly A. Harrison works as a consultant, speaker, and writing instructor in San Jose, CA. For more than 15 years, she’s written technical materials and online content for various software companies. Currently, she teaches writing at San Jose State University and prefers short-term and part-time contracts.

Developing Quality Dissertations in the Sciences: A Graduate Student’s Guide to Achieving Excellence

Barbara E. Lovitts and Ellen L. Wert. 2009. Sterling, VA: Stylus Publishing. [ISBN 978-1-57922-259-8. 40 pages, including appendixes. US\$7.95 (softcover).]



Barbara Lovitts and Ellen Wert argue that, contrary to advisors’ assumptions, students do not clearly understand the purpose of a dissertation or how it is evaluated for originality and significance. To address this deficiency, their booklet clearly and precisely defines the dissertation as a vehicle

for demonstrating the graduate student’s ability to exhibit both originality and significance in acquiring, interpreting, and communicating “expert knowledge,” and provides specific criteria for determining quality in both form and content.

Originality can apply to either content or approach but must be “something that has not been done, found, proved, or seen before” (p. 4); the level of originality is determined by the student’s advisor and committee. Significance—because it involves the consequences of a contribution over time—is ultimately decided by the disciplinary community. Original and significant contributions are therefore those adjudged to be novel and (eventually) “nontrivial” (p. 5).

To help students achieve these goals, Lovitts and Wert provide tables for science (physics, biology), engineering (electrical, computer), and mathematics students, listing the specific, concrete criteria dissertations in each field must demonstrate to be considered outstanding, very good, acceptable, or unacceptable. Criteria are tailored to each discipline’s research (content) and to the writing of each section of the dissertation (form). For example, an acceptable literature review “cites all the right papers but does not put them in the right context”; an outstanding review “cites only important relevant information” (p. 26). Writing is acceptable if it is “weak” and needs “strong editorial work,” but outstanding if it is “very well written and very well organized,” as well as

“elegant” and “compelling” (pp. 9–10). This approach provides students and faculty with relatively objective, specific, and actionable criteria for identifying strengths and addressing weaknesses.

The strong emphasis on writing quality stems from complaints by science and engineering faculty about “the surprising amount of poor writing they see among their graduate students” (p. 22). Though it is obvious to technical communicators, many science and engineering students do not realize the importance of writing to their careers; this booklet pointedly reminds them that once they are working in their profession, their “writing will be an indicator of the quality” of their thought and their “attention to the details of research.” If they “cannot convey [their] ideas and data clearly, concisely, and coherently, the reader will not be able to appreciate their import” (p. 22).

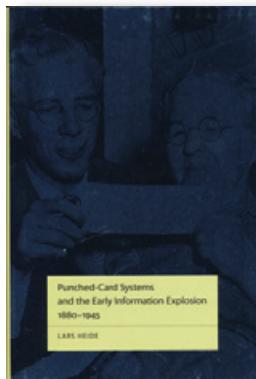
By offering practical, directly applicable quality metrics for scientific and technical dissertations, including originality and significance, the authors help students and faculty clarify mutual expectations and eliminate the misunderstanding that makes dissertations unnecessarily onerous. The authors especially intend that students use their advice to become more proactive in consciously managing the communication demands of their professions. The responsibility, they emphasize, lies more with the student than the teacher.

Short, inexpensive, practical, offering usable advice based on Lovitts’ own previously published research, laid out in distinct modules that are easily identified and assigned, and focused on representative disciplines that are generally applicable, this pamphlet can readily supplement in-depth study of dissertation research and writing methods. Recommended.

Donald R. Riccomini

Punched-Card Systems and the Early Information Explosion, 1880–1945

Lars Heide. 2009. Baltimore, MD: The Johns Hopkins University Press. [ISBN 978-0-8018-9143-4. 370 pages, including index. US\$65.00.]



As a college freshman in 1970, I sat down to the tedious task of registering for classes by filling out a stack of punch cards (#2 pencil only!), with little awareness of the rich history contained in those humble pastel cards. Lars Heide tells that story.

The book begins with Herman Hollerith’s invention of a punch system to count the 1890 U.S. census. We learn of Hollerith’s struggles to develop the punch card technology and find other customers besides the Census Bureau, and his eventual break with the Bureau. In 1902, the originally ad hoc Census Bureau becomes a permanent institution by congressional decree. With a new director, Simon Newton Dexter North, the Bureau is now all about controlling costs. North demands price concessions from Hollerith for the rental of his punched-card machines and asks for congressional funds to build his own machines. The rift between North and Hollerith results in the loss of the census contract in 1905 and Hollerith’s search for other markets.

We follow Hollerith as he joins forces with Eugene A. Ford, an experienced shop engineer, who helps him simplify and standardize his machines. He can now respond to the First World War and the growing demand for his “tabulating machines.” The need to mobilize and then statistically track men and munitions is a boon for Hollerith’s company, the Tabulating Machine Company. Each punch card for the war effort contains a printed “Man Number” that identifies each soldier and facilitates statistical processing.

The use of punched cards to facilitate information storage continues into the Second World War. As Heide puts it, “The punched card was the basis for the most advanced information technology from the 1920s to the Second World War” (p. 5). Along the way, unable to meet demands for his machines and hobbled by an inability to delegate responsibility to

employees and effectively grow his company, Hollerith sells his company to a conglomerate that will become IBM in 1924.

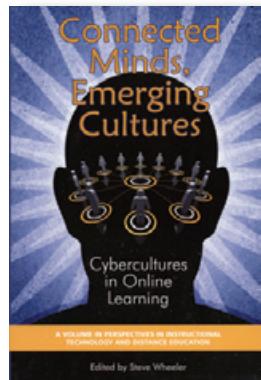
Although separate chapters describe punched card use in Europe and Hollerith's attempt to gain a foothold there, we never really get to know Herman Hollerith as a man. While this book is clearly of interest to anyone who studies the history of technological innovation, I would like to know more about the individual behind the punch card. What was it that caused Herman to press through so many periods of business reversals? What spark drove him to usher in our modern computer age against often overwhelming obstacles? We learn much about the design of the punched card but too little about the design of the man who crafted it.

Victoria Maki

Victoria Maki is the president of Bitzone, a technical publishing and training company, and coauthor of *Documenting APIs: Writing Developer Documentation for Java APIs and SDKs*, which is available from the Bitzone Web site at <http://www.bitzone.com>. She also co-manages the Technical/API Docs Special Interest Group for the Silicon Valley STC Chapter.

Connected Minds, Emerging Cultures: Cybergcultures in Online Learning

Steve Wheeler, ed. 2009. Charlotte, NC: Information Age Publishing, Inc. [ISBN 978-1-60752-015-3. 284 pages, including author bios. US\$39.99 (softcover).]



Today, people can access a wide range of online degree programs, certificate-granting courses, and training seminars with the click of a button. Providing successful instruction in such contexts, however, is often not a matter of technology but of people. That is, the group with which students interact in educational contexts can influence the

learning process. Educators and trainers, therefore, need to understand how the group dynamics or the culture of an online class affects both instructor and student

success. In this context, *Connected Minds, Emerging Cultures: Cybergcultures in Online Learning* offers insights into the role culture and communities can play in online instruction.

Cultures—whether online or face-to-face—are complex and nuanced. Thus, it would be difficult for a single text to effectively explore all aspects affecting their creation and evolution. The editor of *Connected Minds, Emerging Cultures* does not try to provide readers with a definitive reference resource; rather, his objective is to present ideas and perspectives that will prompt reflection and help readers think more carefully about the topic. This approach allows him to include entries on a wide range of issues and opinions associated with communities, culture, and education in online environments. It also means that the book's contributors use various methods to explore ideas and different writing styles to convey information. The result is an interesting, highly informative, and very readable work that would be of interest to anyone involved in or considering online education or online training.

Steve Wheeler has organized the book's 17 chapters into four broad sections that address "Digital Subcultures," "Roles and Identities," "Cyber Perspectives," and "Narratives and Case Studies." One might expect such divisions to be too broad; on the contrary, each section contains rich and interesting chapters that collectively do an effective job of examining the various aspects of that section.

The first section explores what subcultures are and how they are created in terms of collaboration, mobility and access, visual versus verbal interaction, and pervasiveness. Similarly, "Roles and Identities" reviews previous research on online identity. The entries in this section also examine how different kinds of social interactions (for example, interaction via gaming vs. via formal online classes) lead to the creation of differing group identities, such as virtual clans and digital tribes, which affects perceptions of self in the virtual and real worlds.

The vaguely titled section "Cyber Perspectives" actually contains four focused entries that expand notions of culture and identity. These chapters explore how such ideas affect information creation and sharing in online communities. The concluding section leaves readers with four examples of how the topics covered in the book's first three sections can affect online learning in different contexts. This section provides readers with

examples of how to apply the more abstract concepts covered in the first three sections of the collection.

Through this organizational approach, the editor has created an inverse pyramid that gradually eases readers into the topic. This structure allows them to begin their examination of the subject with broad concepts related to communities, culture, and online education, then gradually move to a more focused exploration of certain topics. The text ends with specific examples that help readers understand how these concepts actually affect learning online. This organization, in combination with well-written chapters on interesting topics, makes *Connected Minds, Emerging Cultures* an ideal text for anyone interested in online instruction. It also makes the book an effective text for undergraduate or graduate courses on developing online instruction.

Kirk St. Amant

Kirk St. Amant teaches technical and professional communication at East Carolina University. His research interests include international and intercultural communication (especially in the online environment) and online communication. He is an STC senior member.

Sherry Southard, Editor

The following articles on technical communication have appeared recently in other journals. The abstracts are prepared by volunteer journal monitors. When the abstracts published with articles are used, they are enclosed in quotation marks. If you would like to contribute, contact Sherry Southard at southards@ecu.edu.

"Recent and Relevant" does not supply copies of cited articles. However, most publishers supply reprints, tear sheets, or copies at nominal cost. Lists of publishers' addresses, covering nearly all the articles we have cited, appear in *Ulrich's International Periodicals Directory*.

Communication

Coherence in workplace instant messages

Mackiewicz, J., & Lam, C. (2009). *Journal of Technical Writing and Communication*, 39, 417–431.

"In our case study, we examined the instant messaging (IM) workplace discourse of a pair of expert IM users. We found that the participants maintained discourse cohesion and thus coherence via short, rapidly sent transmissions that created uninterrupted transmission sequences. Such uninterrupted transmission sequences allowed each participant to maintain the floor. Also, the participants used topicalizations and performative verbs to maintain coherence. We also found that the participants' use of short transmissions may have ambiguated their enactment of their institutional roles and the rights afforded to them by those roles."

Valerie J. Vance

Corporate social responsibility in the blogosphere

Gieseler, C., Fleck, M., & Meckel, M. (2010). *Journal of Business Ethics* 91, 599–614.

"This paper uses social network analysis to examine the interaction between corporate blogs devoted to sustainability issues and the blogosphere, a clustered online network of collaborative actors. By analyzing the structural embeddedness of a prototypical blog in a virtual community, we show the potential of online platforms to document corporate social responsibility (CSR) activities and to engage with an increasingly socially and ecologically aware stakeholder base. The

results of this study show that stakeholder involvement via sustainability blogs is a valuable new practice for CSR communications and stakeholder engagement. It also opens new horizons for communicating CSR issues to key constituencies online."

Christine Cranford

Improving disaster management

Underwood, S. (2010). *Communications of the ACM*, 53(2), 18–20.

"Social networking, sophisticated imaging, and dual-use technologies promise improved disaster management, but they must be adopted by governments and aid agencies if more lives are to be saved in the wake of crises."

Sherry Southard

Improving extreme-scale problem solving: Assessing electronic brainstorming effectiveness in an industrial setting

Dornburg, C. C., Stevens, S. M., Hendrickson, S. M. L., & Davidson, G. S. (2009). *Human Factors*, 51, 519–527.

"An experiment was conducted to compare the effectiveness of individual versus group electronic brainstorming to address difficult, real-world challenges Although industrial reliance on electronic communications has become ubiquitous, empirical and theoretical understanding of the bounds of its effectiveness have been limited. Previous research using short-term laboratory experiments have engaged small groups of students in answering questions irrelevant to an industrial setting. The present experiment extends current

findings beyond the laboratory to larger groups of real-world employees addressing organization-relevant challenges during the course of 4 days Employees and contractors at a national laboratory participated, either in a group setting or individually, in an electronic brainstorm to pose solutions to a real-world problem The data demonstrate that (for this design) individuals perform at least as well as groups in producing quantity of electronic ideas, regardless of brainstorming duration. However, when judged with respect to quality along three dimensions (originality, feasibility, and effectiveness), the individuals significantly ($p < .05$) outperformed the group When quality is used to benchmark success, these data indicate that work-relevant challenges are better solved by aggregating electronic individual responses rather than by electronically convening a group This research suggests that industrial reliance on electronic problem-solving groups should be tempered, and large nominal groups may be more appropriate corporate problem-solving vehicles.”

Sherry Southard

The rhetorical situations of Web resumes

Killoran, J. B. (2009). *Journal of Technical Writing and Communication*, 39, 263–284.

“This article questions how professional communication genres already well established in print form have been changing as they are transplanted into digital media like the Web. Whereas some technology-oriented genre research has sought how a new medium provides genres with new technological features, this article argues that a more insightful approach would seek how a new medium, together with its users, provides genres with new rhetorical situations. I adapt Lloyd Bitzer’s three situational dimensions of exigence, audience, and constraints. Then, to illustrate how the new rhetorical situations of the Web can influence a genre, I explore the genre of the resume. Drawing on a survey of 100 Web resume authors and an analysis of their sites, I show that as each of the three dimensions of the resume’s traditional rhetorical situation has opened itself to greater diversity on the Web, the Web version of the resume genre has correspondingly reoriented itself. Hence, genres change in response not

just to the new medium’s technology per se but to the new rhetorical situations that the medium hosts.”

Valerie J. Vance

Rhetorics of alternative media in an emerging epidemic: SARS, censorship, and extra-institutional risk communication

Ding, H. (2009). *Technical Communication Quarterly*, 18, 327–350.

“This article examines how professionals and the public employed alternative media to participate in unofficial risk communication during 2002 SARS outbreak in China. Whereas whistle-blowers used alternative media such as independent overseas Chinese Web sites and contesting Western media, anonymous professionals and the larger communities relied more on guerrilla media such as text messages and word of mouth to disseminate risk messages during official silence and denial.”

Valerie J. Vance

Writing an introduction to the introduction

Hartley, J. (2009). *Journal of Technical Writing and Communication*, 39, 321–329.

“Many authors give advice to students about how to write the Introduction section of their articles. Some give examples of different ways of doing this in general, and a few discuss the opening sentence in particular. In this article, 13 different types of opening sentences are outlined, and their usage contrasted in British and American journals in the Sciences and Social Sciences. Implications for teaching are considered.”

Valerie J. Vance

Computer Issues

Analysis of alternative keyboards using learning curves

Anderson, A. M., Mirka, G. A., Joines, S. M. B., & Kaber, D. B. (2009). *Human Factors*, 51, 35–45.

“To quantify learning percentages for alternative keyboards (chord, contoured split, Dvorak, and split fixed angle) and understand how physical, cognitive, and perceptual demand affect learning Alternative keyboards have been shown to offer ergonomic benefits over the conventional, single-plane QWERTY keyboard design, but productivity-related challenges may hinder their widespread acceptance Sixteen participants repeatedly typed a standard text passage using each alternative keyboard. Completion times were collected and subsequent learning percentages were calculated. Participants were asked to subjectively rate the physical, cognitive, and perceptual demands of each keyboard, and these values were then related to the calculated learning percentages Learning percentage calculations revealed the percentage for the split fixed-angle keyboard (90.4%) to be significantly different ($p < .05$) from the learning percentages for the other three keyboards (chord, 77.3%; contour split, 76.9%; Dvorak, 79.1%). The average task completion time for the conventional QWERTY keyboard was 40 s, and the average times for the fifth trial on the chord, contoured split, Dvorak, and split fixed-angle keyboards were 346, 69, 181, and 42 s, respectively Productivity decrements can be quickly regained for the split fixed-angle and contour split keyboard but will take considerably longer for Dvorak and chord keyboards. The split fixed-angle keyboard involved physical learning, whereas the others involved some combination of physical and cognitive learning, a result supported by the subjective responses Understanding the changes in task performance time that come with learning can provide additional information for a cost-benefit analysis when considering the implementation of ergonomic interventions.

Sherry Southard

Delays and user performance in human-computer-network interaction tasks

Caldwell, B. S., & Wang, E. (2009). *Human Factors*, 51, 813–830.

“This article describes a series of studies conducted to examine factors affecting user perceptions, responses, and tolerance for network-based computer delays affecting distributed human-computer-network interaction (HCNI) tasks HCNI tasks, even with increasing computing and network bandwidth capabilities, are still affected by human perceptions of delay and appropriate waiting times for information flow latencies Conducted were 6 laboratory studies with university participants in China (Preliminary Experiments 1 through 3) and the United States (Experiments 4 through 6) to examine users' perceptions of elapsed time, effect of perceived network task performance partners on delay tolerance, and expectations of appropriate delays based on task, situation, and network conditions Results across the six experiments indicate that users' delay tolerance and estimated delay were affected by multiple task and expectation factors, including task complexity and importance, situation urgency and time availability, file size, and network bandwidth capacity. Results also suggest a range of user strategies for incorporating delay tolerance in task planning and performance HCNI user experience is influenced by combinations of task requirements, constraints, and understandings of system performance; tolerance is a non-linear function of time constraint ratios or decay Appropriate user interface tools providing delay feedback information can help modify user expectations and delay tolerance. These tools are especially valuable when delay conditions exceed a few seconds or when task constraints and system demands are high. Interface designs for HCNI tasks should consider assistant-style presentations of delay feedback, information freshness, and network characteristics. Assistants should also gather awareness of user time constraints.”

Sherry Southard

Feedback preferences and impressions of waiting

Branaghan, R. J., & Sanchez, C. A. (2009). *Human Factors*, 51, 528–538.

“Three experiments examined the effects of various feedback displays on user preference, apparent waiting durations, waiting time reasonableness, and other user experience measures. User interface guidelines advocate keeping users informed about system status; however, the duration estimation literature shows that focusing on temporal information makes the wait seem longer. How can designers reconcile these issues? In three experiments, students chose movies from a simulated movie database and then were shown feedback displays (static, sequential dots, constant-rate progress bars, or variable-rate progress bars) for different durations. Users judged how reasonable the wait was and how long it lasted and then ranked their preference for the dialogs The pattern of preference results was different from duration-related judgments. Users preferred feedback that provided more information. On the other hand, when judging duration, users perceived simpler interfaces as being most reasonable Different types of feedback are required for reducing perceived wait and increasing preference. Ratings of wait time reasonableness were consistent with the attentional gate theory of prospective timing; attention-demanding activity caused the wait to seem less reasonable. Preference, on the other hand, requires keeping users informed about the progress of operations Users prefer more feedback rather than less, even if it makes the wait seem less reasonable. However, the constant progress bar performed at the top of both reasonableness and preference, keeping users informed without increasing arousal or focusing attention on temporal stimuli. Other options are also discussed to make duration perceptions more reasonable.”

Sherry Southard

Design

Observational data on practical experience and conditions of use of written instructions

Ganier, F. (2009). *Journal of Technical Writing and Communication*, 39, 401–415.

“This article presents a study investigating how people deal with procedural documents when using a new domestic appliance. An observational study was carried out in a quasi-experimental setting in order to outline the behavior of users encountering and using an appliance for the first time. The purpose of this observation was to identify two kinds of factors: on the one hand, factors inciting the use of procedural documents accompanying appliances, and on the other hand, design features facilitating the use of these documents when looking for specific information. User behavior and strategies were categorized using two kinds of indicators: 1) the number of times the documents were examined prior to contact with the appliance and/or while carrying out the prescribed tasks; and 2) the total time required to locate information in three different kinds of documents: Text only, Picture only, Text + Picture. Results show that 16 participants out of 30 spontaneously used the procedural documents before starting to use the appliance. However, during the session, 27 participants consulted the documents at least once. This consultation was determined by the task to carry out and the complexity level of the task. Otherwise, results show that time taken to locate information was shortest when instructions were displayed in text and picture format.”

Valerie J. Vance

Editing

Creating editorial authority through technological innovation

Lanier, C. R. (2009). *Journal of Technical Writing and Communication*, 39, 467–479.

“This article considers a case in which editors created for themselves an amount of power and authority within an organization through technological innovation. Using retrospective analysis and e-mail interviews, the author discusses his own previous experience as a technical editor at a U.S. Government-run research facility when electronic editing was introduced and used. The introduction of electronic editing, the author argues, was an example of technological innovation, which, as other researchers have demonstrated, can create authority within an organization.”

Valerie J. Vance

Examining editor-author ethics: Real-world scenarios from interviews with three journal editors

Amare, N., & Manning, A. (2009). *Journal of Technical Writing and Communication*, 39, 285–303.

“Those who submit manuscripts to academic journals may benefit from a better understanding of how editors weigh ethics in their interactions with authors. In an attempt to ascertain and to understand editors’ ethics, we interviewed three current academic journal editors of technical and/or business communication journals. We asked them about the ethical dilemmas they encountered while working with authors, whether the editors formally or informally followed a ‘code of ethics,’ and if they felt obligated to maintain any ethical codes in particular. In this article, we discuss the ethical dimensions of editorial practices using specific ethical scenarios provided by these three editors. We then analyze these scenarios using traditional ethical models in our field but also in terms of a less-known but powerful model of ethical analysis originally proposed by philosopher C. S. Peirce. We argue that Peirce’s ‘community of inquiry’ ethics model describes these journal editors’ ethics when working with authors.”

Valerie J. Vance

Education

Assessing technical communication within engineering contexts—tutorial

Davis, M. T. (2010). *IEEE Transactions on Professional Communication*, 53, 33–45.

“A major challenge in engineering education is to prepare professionals for communicating well in writing and speaking, using appropriate technologies, within professional contexts. Communication in the global engineering world includes collaboration on cross-functional teams, virtual-project team management, and writing for multiple, complex audiences. This tutorial discusses how one small engineering school has integrated technical communication teaching and assessment throughout the curriculum with demonstrated success. The integrated curriculum, formative and summative assessments, and real-world contexts offer one model to address growing communication challenges.”

Gowri Saraf

The effect of social presence on affective and cognitive learning in an international engineering course taught via distance learning

MacKey, K. R. M., & Freyberg, D. L. (2010). *Journal of Engineering Education*, 99, 23–34.

“Distance learning course formats can alter modes of information exchange and interpersonal interaction relative to traditional course formats To determine the effect of a distance course format on the knowledge acquisition (cognitive learning) and satisfaction (affective learning) of students, we investigated student learning responses and social presence during a graduate-level engineering course taught via traditional (i.e., professor present in the classroom) and synchronous distance-learning formats Direct quantification of participation, academic performance assessment based on homework and exam scores, and survey-based assessments of student perceptions of the course were collected. Based on these data, cognitive and affective learning responses to different technological and interaction-based aspects

of the course were determined for each course format We show that while affective learning decreased for students in the distance format course relative to the traditional format, cognitive learning was comparable. Our results suggest that loss of satellite connection and audio losses had a stronger negative effect on student perceptions than video disturbances, and that participation was the most important factor influencing affective learning While our findings do not suggest that cognitive learning is strongly affected by social presence, implementing strategies to enhance social presence may improve the overall learning experience and make distance learning more enjoyable for students."

Christine Cranford

How technical communication textbooks fail engineering students

Wolfe, J. (2009). *Technical Communication Quarterly*, 18, 351–375.

"Twelve currently popular technical communication textbooks are analyzed for their treatment and discussions of the types of writing that engineers produce. The analysis reveals a persistent bias toward humanities-based styles and genres and a failure to address the forms of argument and evidence that our science and engineering students most need to master to succeed as rhetoricians in their fields. The essay ends with recommendations and calls upon instructors to reenvision the service course in technical communication."

Valerie J. Vance

Introducing heuristics of cultural dimensions into the service-level technical communication classroom

Schafer, R. (2009). *Journal of Technical Writing and Communication*, 39, 305–319.

"A significant problem for practitioners of technical communication is to gain the skills to compete in a global, multicultural work environment. Instructors of technical communication can provide future practitioners with the tools to complete and excel in this global environment by introducing heuristics of

cultural dimensions into the service-level classroom. By practicing how to use these heuristics in 'real-world' contexts, instructors can prepare students to function as both information architects and symbolic-analytic operators within this global work environment. In this article, I first examine common cultural heuristics as they pertain to business communication. Next, I articulate how technical communicators can benefit from incorporating these heuristics into the classroom. Finally, I offer a pedagogical approach to introducing heuristics of cultural dimensions into the service-level technical communication classroom."

Valerie J. Vance

Rubric use in technical communication: Exploring the process of creating valid and reliable assessment tools

Boettger, R. K. (2010). *IEEE Transactions on Professional Communication*, 53, 4–17.

"Assessing the quality of student efforts and products is a continual necessity for academics and practitioners in technical communication; however, the process of constructing valid and reliable rubrics remains an underexplored topic in the field. This paper first addresses some of the assessment concerns and then describes a case study that documents the development and implementation of one holistic and five analytic rubrics to evaluate undergraduate projects. The discussion focuses on identifying site-specific criteria and training effective raters and is intended to help academics respond to their required accreditation mandates and offer practitioners alternatives for evaluating products and services."

Gowri Saraf

Student views on learning grammar with web- and book-based materials

Jarvis, H., & Szymczyk, M. (2010). *ELT Journal*, 64, 32–44.

"This paper reports on a study which examined students' attitudes to learning grammar in autonomous contexts and their preferences for the learning materials with which to do so. In all, 38 students were surveyed and 13 of these then spent some time

working in a language resource centre (LRC) with web- and paper-based materials. Students then completed a series of questionnaires concerning what they liked and disliked about the two types of materials. Four participants were then interviewed in more detail about their responses. The data suggest that despite the well-documented advantages of the tutorial role of computers and the notion of the 'digital native', participants generally preferred working with paper-based materials. The paper concludes with a discussion of the implications of this for materials that LRCs stock and for the changing role of computers in self-study contexts."

Lee S. Tesdell

Tech-era L2 writing: Towards a new kind of process

Stapleton, P., & Radia, P. (2010). *ELT Journal*, 64, 175–183.

"This study argues that L2 writing pedagogy needs to give more recognition to the impact emerging from new technological tools and online resources. While shifts in approaches from product to process to genre are well documented in the literature, little research has appreciated the collective influence generated by advances in technology. It is suggested here that developments in software and online resources are leading to improvements in many areas of student writing, both at the levels of language and content. Moreover, efficient use of this technology could have a significant effect on the way in which teachers provide feedback. Collectively, these advances suggest a new dimension has entered the writing process."

Lee S. Tesdell

The two-semester thesis model: Emphasizing research in undergraduate technical communication curricula

Ford, J. D., Bracken, J. L., & Wilson Lam, G. D. (2009). *Journal of Technical Writing and Communication* 39, 433–453.

"This article addresses previous arguments that call for increased emphasis on research in technical communication programs. Focusing on the value of scholarly-based research at the undergraduate

level, we present New Mexico Tech's thesis model as an example of helping students develop familiarity with research skills and methods. This two-semester sequence serves as a capstone experience for students' writing, designing, editing, and presentation skills. It also involves members of our corporate advisory board and provides an opportunity to teach students to understand and apply research methods to unique projects, skills we argue will benefit students no matter what environments they enter upon graduation."

Valerie J. Vance

Information Management

Collaborate in context

Papallo, A. (2010). *Best Practices*, 12, 48–54. [Center for Information Development Management]

"This article addresses the role of collaboration in the preparation, management, maintenance, and use of authoritative reference publications in modern companies. It is specifically concerned with how workers interact with reference publications and, most importantly, how the knowledge they glean while using those reference works can be captured and shared for individual, community, and corporate benefit."

Sherry Southard

Connect your content with your audience—Using wikis and communities to build collaboration with your customers

Cavender, H., & Zimmerman, P. (2010). *Best Practices*, 12, 1, 5–7. [Center for Information Development Management]

"Collaboration and new methods of delivering content will not end with wikis and online communities [C]hanges in content delivery and management create new roles for content developers, allowing them to facilitate the creation and management of content, and provide new insights into how people use content Collaborative tools have enabled a more interactive relationship with the content owners and audience As this relationship evolves, the content and the

roles of the content developers and the audience will change.”

Sherry Southard

Content for tomorrow: Social media and the dilemmas for technical publications teams

Blanton, A. (2010). *Best Practices*, 12, 18–22. [Center for Information Development Management]

“In today’s world, technical publications teams must learn how to listen and participate in the conversations that our customers are already having. While we might not always like what they say, we have an unprecedented opportunity to listen in and figure out what information people want so that we can create and curate content experiences that they value [Blanton lays] out some of the dilemmas that [he sees] emerging as technical publications teams embrace social media.”

Sherry Southard

Participation, education, and cooperation: A model for overcoming organizational barriers to change

Barraclough, T. (2010). *Best Practices*, 12, 12–17. [Center for Information Development Management]

Barraclough describes “how a small technical publications department has managed to overcome organizational barriers to increase their participation in product delivery, raise awareness of the requirements and benefits of quality technical publications, and encourage inter-departmental cooperation [T]he principles apply to departments and organizations of any size.”

Sherry Southard

Predicting cost saving—Backing up your claims

Hackos, J. (2010). *Best Practices*, 12, 30–35. [Center for Information Development Management]

Hackos discusses “how to predict cost savings and how to back up your claims so that they exert positive influence on the decisions makers [and focuses on four levels of] process changes [that] will have the longest lasting affect on time and cost”: “desktop publishing: the simplest cost savings to make,” “a basic content reuse strategy,” “a complex content reuse strategy,” and “a high-level cost-reduction strategy.”

Sherry Southard

A preview of coming attractions: DITA constraints

Hennum, E. (2010). *Best Practices*, 12, 8–11. [Center for Information Development Management]

“The DITA 1.2 standard is getting ready to depart the station at OASIS with a number of new tools for DITA adopters. These tools include constraints, a refinement of the DITA architecture that makes it easier for you to create consistent, tailored content with minimal investment This article explains how, with constraints, less can be more.”

Sherry Southard

SDL survey reveals industry rise in adoption of structured authoring

Hurst, S. (2010). *Best Practices*, 12, 23–27. [Center for Information Development Management]

“SDL recently conducted the 2009 edition of its annual Global Authoring Survey, which has been running since 2006 with the goal of exploring the trends in authoring and technical documentation across the globe. The particular focus is on the tools used for authoring, the dynamics of authoring teams and departments, as well as the trends and shifts in XML and DITA [Hurst discusses] the trends that are shaping the industry this year.”

Sherry Southard

What's the big deal?—Just cut and paste?

Gross, M. (2010). *Best Practices*, 12, 46–47. [Center for Information Development Management]

“When converting documents from publishing systems ... many people cut and paste from the original documents.” Gross explains the difficulties such an approach can cause for special characters and emphasis, tables, tagging inconsistencies, hyperlinking, and other special mark-up requirements.

Sherry Southard

Writing for reuse (or carefully crafted content)

Reid, D. A. (2010). *Best Practices*, 12, 39–42. [Center for Information Development Management]

“The level of detail in a DITA Module (DM) is a key factor in the reusability of the DM in different configurations and products. The DM is not as reusable if the level of detail is too deep, compared to a module that is a higher level view. The more reuse we can obtain from a module, the cheaper the manual is to produce and the more time we all have to work on other projects.” The author admits that deciding the level of detail is difficult.

Sherry Southard

Professional Issues

Breaking the rules: Teaching grammar “wrong” for the right results in technical communication consulting for engineers

Knievel, M., Heaney, A., & Baalen-Wood, M. V. (2010). *IEEE Transactions on Professional Communication*, 53, 58–68.

“Technical communication consultants steeped in conventional academic notions of writing pedagogy may encounter different assumptions about the nature of writing and the significance of grammar in writing instruction when they consult with professional engineers. This paper examines historical, theoretical, and practical reasons for these sometimes contradictory beliefs and traces the authors’ efforts

to reconcile these differences while planning and conducting a writing seminar for an engineering firm. A strong emphasis on grammar and mechanics can lead to numerous benefits, including a stronger sense of shared purpose between consultants and engineers and a point of entry into additional conversations about institutional writing practices and writing environments.”

Gowri Saraf

High-stakes English-language assessments for aviation professionals: Supporting the use of a fully automated test of spoken-language proficiency

Downey, D., Suzuki M., & Moere, A. V. (2010). *IEEE Transactions on Professional Communication*, 53, 18–32.

“A recent International Civil Aviation Organization initiative mandates that pilots and air-traffic controllers operating on international routes demonstrate adequate English-language proficiency for successful communication. The Versant Aviation English Test was developed to serve this purpose. It is a fully automated speaking and listening performance test, where administration of the test tasks and scoring of the candidates’ responses are computerized. We argue that not only do candidates engage in cognitively and linguistically appropriate interactions, but that computer-generated scores and human ratings are consistent ($r = 0.94$), enabling valid score-based decisions to be made on the basis of automated language testing.”

Gowri Saraf

Mapping the cultural landscape in engineering education

Godfrey, E., & Parker, L. (2010). *Journal of Engineering Education*, 99, 5–22.

“Calls for culture change as key to systemic reform in engineering education implicitly assume the existence of common elements of a distinctive culture. The landscape for engineering education studies that invoke the concept of culture is complex and multi-faceted, yet still ill-defined and incomplete The aim of

this study is to develop a conceptual framework of cultural dimensions that has the potential to guide the understanding of culture in the context of engineering education to demonstrate 'where we are' and 'how to get where we want to go' Ethnographic methods within an overarching interpretivist research paradigm were used to investigate the culture of engineering education as manifested in one institution. Adapting Schein's cultural framework, the data were collected and analyzed to distill from observable behaviors and practices the essence of the culture in the form of tacitly known cultural norms, shared assumptions, and understandings that underpinned the lived experience of staff and students The findings are discussed within six cultural dimensions which emerged from the data as: An Engineering Way of Thinking, An Engineering Way of Doing, Being an Engineer, Acceptance of Difference, Relationships, and Relationship to the Environment The detailed findings from this study, combined with evidence from other studies, support the view that the proposed six dimensions have the potential to be transferred to other institutions as a practical tool for evaluating and positioning the culture of engineering education."

Christine Cranford

A new role for place identity in managing organizational change

Rooney, D., Paulsen, N., Callan, V. J., Brabant, M., Gallois, C., & Jones, E. (2010). *Management Communication Quarterly*, 24, 44–73.

"In an extension of organizational identity research, we draw on place identity theory (PIT) to argue that employees' identification with their place of work influences their perceptions of large-scale organizational change. To determine how different types of employees respond to threats to their sense of place identity, we conducted 34 interviews with senior and middle managers, supervisory and nonsupervisory staff, and external stakeholders at a public hospital undergoing change. Groups of employees at lower levels of the organizational hierarchy experienced a stronger sense of place and belongingness and greater disruption to their place identity than those at higher levels. We discuss how place identity operates as a component of social identity as well as the responses

managers can make to ways in which employees with different place identifications deal with change."

Sherry Southard

Systems of classification and the cognitive properties of grant proposal formal documents

Wolff, W. I. (2009). *Technical Communication Quarterly*, 18, 303–326.

"Despite the prominent role of application forms in the process of composing grant proposals, little attention has been given to the rhetorical and ethical implications of their prompts and instructions. This article analyzes classification systems reified within the cognitive properties of online forms that faculty members use to submit grant proposals. Results suggest that the historicity of proposal forms adds to the complexity of developing models that accurately represent proposal writing in multiple contexts."

Valerie J. Vance

Research

Number of people required for usability evaluation: the 10±2 rule

Hwang, W., & Salvendy, G. (2010). *Communications of the ACM*, 53(5), 130–133.

The authors investigate, for software products, "[t]hree widely used methods for usability evaluation ... Think Aloud (TA), Heuristic Evaluation (HE), and Cognitive Walkthrough (CW) The overall discovery rates were reported more than any other criterion measure in the usability evaluation experiments and also a key component for projecting required sample size for usability evaluation study. Thus, how many test users or evaluators participate in the usability evaluation is a critical issue, considering its cost-effectiveness."

Sherry Southard

Scientific Writing

Agency and the rhetoric of medicine: Biomedical brain scans and the ontology of fibromyalgia

Graham, D. S. (2009). *Technical Communication Quarterly*, 18, 376–404.

“Recent agency scholarship has provided compelling accounts of how individuals can strategically occupy authoritative positions, in order to instantiate change. This article explores the discursive mechanisms of this type of agency in the legitimization of disease. Drawing on ethnographic research, this article investigates how a non-human agent (brain scans) contributed to fibromyalgia’s acceptance within the highly regulated discourses of western biomedicine.”

Valerie J. Vance

“Proof” in pictures: Visual evidence and meaning making in the ivory-billed woodpecker controversy

Winn, W. (2009). *Journal of Technical Writing and Communication*, 39, 351–379.

“This case study focuses on images in three Science articles on the ivory-billed woodpecker, whose rediscovery was recently heralded. Because the primary piece of evidence is a frustrating fuzzy four-second video, two groups of authors ultimately disagree on its interpretation and the same still video images that are used to argue for the sighting are used to argue against it. Given that the authors are making taxonomic arguments, images that closely resemble reality are employed. These images, like all images, are coded, and this analysis seeks to unlock these visual codes to reveal how meaning is made at the site of production, the site of the image, and the site of the audience. It also exposes how meaning making at the site of the image fueled the controversy.”

Valerie J. Vance

Risk communication, space, and findability in the public sphere: A case study of the physical and online information center

Nagelhout, E., Staggers, J., & Tillery, D. (2009). *Journal of Technical Writing and Communication*, 39, 227–243.

“This article uses theories of space and findability to analyze a public information center as an example of multi-modal risk communication. The Yucca Mountain Information Center is an informational space created by the Department of Energy to inform the public about the proposed nuclear waste repository planned for Yucca Mountain, Nevada. As a public space, the Center uses fact sheets, posters, and three-dimensional displays to make arguments about the storage of nuclear waste; we argue that the physical space, text, displays, and online space are all elements of risk communication. We offer a new way to read these elements of risk communication and suggest potential opportunities for public agency.”

Valerie J. Vance

The structure of scientific titles

Harmon, J. E., & Gross, A. G. (2009). *Journal of Technical Writing and Communication* 39, 455–465.

“This article proposes a taxonomy of scientific titles: those staking claims; those setting problems; and those conveying themes. A close analysis of the deep structure of these titles suggest that their goal is the maximization of information content within a short compass, a compression that permits their easy retrieval in computerized searches. Placing these titles into the context provided by Gross, Harmon, and Reidy’s *Communicating Science* suggests further that titles evolved to this point by adapting to changes in systems of information retrieval.”

Valerie J. Vance

Virtuous or vicious? Agency and representation in biotechnology's virtuous cycle

Sunderland, N. (2009). *Journal of Technical Writing and Communication*, 39, 381–400.

“This article provides a fresh examination of claims that biotechnology and other high profile areas of scientific research and development create a ‘virtuous cycle’ that delivers benefits to society and ecology through an array of consumer products. Specifically, the article investigates who and what has agency in this virtuous cycle and who and what does not. I argue that official discourses on and definitions of biotechnology create strict demarcations not only on who can act in relation to biotechnology research development options, but also on where and at what stages of the virtuous cycle these agents can act. For example, scientists are presented as passive rather than active agents whose influence is limited to the laboratory context despite rhetorical use of their identity and credibility across all contexts of product development and consumption explored. Agency is highly significant in biotechnology and other areas of scientific advance because it determines who or what has moral decision making power regarding the place of new technologies in society. The article concludes with a discussion of the social and ethical impacts of these demarcations of agency in biotechnology’s virtuous cycle.”

Valerie J. Vance

Technology

Distributing memory: Rhetorical work in digital environments

Van Ittersum, D. (2009). *Technical Communication Quarterly*, 18, 259–280.

“This article presents data from a long-term, qualitative study of writers appropriating new software tools for note taking. Instead of asking whether a writer knows how to use the discrete features specific to a software program, I argue that we might more profitably ask about the properties of functional systems that allow writers to flexibly meet the demands of their literate activity.”

Valerie J. Vance

Guest editors' introduction: New technological spaces

Swarts, J., & Kim, L. (2009). *Technical Communication Quarterly*, 18, 211–223.

Swarts and Kim examine genres and the space of rhetorical action. Most of their introduction provides context for the articles included in the special issue by discussing the topics of “Genres and the Spaces of Rhetorical Action,” “Places, Spaces, and Rhetorical Action,” “Modularity: The Structure of Information Spaces,” “Literate Action in Hybrid Spaces,” and “Why Hybrid Spaces Matter in Technical Communication.” They conclude that “writing has become associated with a greater range of rhetorical acts that respond to and are shaped by the hybrid spaces where they are carried out.”

Valerie J. Vance

I, myself and e-myself

Rhee, C., Sanders, G. L., & Simpson, N. C. (2010). *Communications of the ACM*, 53(6), 154–157.

“Although it is useful to understand the psychological underpinning of online users, the adoption of psychological theories and instances should be performed with caution and with due regard to

applicability. Many Web developers start with the premise that an individual's perceptions, thoughts and online behaviors are similar to their personality in the real world. However, if this premise itself is wrong—that is, if an individual becomes a different person when online, then our theories along with our business strategies may require modification. It is our position that study of the development of the virtual personality is vital because human beings perceive, think, and behave differently when they are online.”

Sherry Southard

Individual resistance to IT innovations

Joseph, R. C. (2010). *Communications of the ACM*, 53(4), 144–146.

“Possibly, more important than the intention to adopt, is the intent ‘not to adopt’ a new technology. IT innovations are complex and content-sensitive and differ across a variety of factors including features, usability, and connectivity. If companies can better understand the non-adopter, they can use creative strategies to move such individuals into the adopter category, which can ultimately increase product visibility and revenue generation.”

Sherry Southard

Information, architecture, and hybridity: The changing discourse of the public library

Carnegie, T. A. M., & Abell, J. (2009). *Technical Communication Quarterly*, 18, 242–258.

“In an industrial society, the library is associated with modern economic, political, and social metanarratives. With the rise of digital technology, public libraries are threatened with the possibility of becoming obsolete and irrelevant. Spaces and interfaces intersect with modern and postmodern narratives as the library vies to establish its identity as a legitimizer and purveyor of knowledge in the information age. Through architecture, the library comes to speak the language of hybridity to reassert its relevance and reposition itself.”

Valerie J. Vance

New search challenges and opportunities

Savage, N. (2010). *Communications of the ACM*, 53(1), 27–28.

“[T]he type of content [of the web] is expanding dramatically, with blogs and Twitter feeds, maps and videos, photos and podcasts For search engines, this enormous variety of data and formats is providing both new challenges and new opportunities.” Savage discusses very briefly some of the issues and research.

Sherry Southard

To scroll or not to scroll: Scrolling, working memory capacity, and comprehending complex texts

Sanchez, C. A., & Wiley, J. (2009). *Human Factors*, 51, 730–738.

“The purpose of these experiments was to examine the effects of user characteristics on learning from scrolling interfaces Although scrolling Web pages are now common, few studies have explored the effects of scrolling on understanding the content that is being conveyed This set of studies investigated whether presenting text in two particular formats has an effect on comprehension for readers who differ in working memory capacity Results from both studies indicated that a scrolling format reduced understanding of complex topics from Web pages, especially for readers who were lower in working memory capacity These findings show that the way text is presented can interact with learner abilities to affect learning outcomes These results have implications for both educational technology and human interfaces that present information using displays that can vary in size and construction.”

Sherry Southard

Toward a rhetoric of locale: Localizing mobile messaging technology into everyday life

Sun, H. (2009). *Journal of Technical Writing and Communication*, 39, 245–261.

“This article explores the social meaning of *locale* in mobile communication research and introduces an approach of user localization to study technology

integration. It investigates how *locale* forms an essential role in mobile communication in the way that practice, agency, and identities are articulated into a user localization process of incorporating technology into user's everyday life. It argues that the use of mobile communication technology is both a complex and dynamic interaction with its surrounding social, cultural, technological, and economic conditions, and an articulation work of self and locale."

Valerie J. Vance

Using actor network theory to trace and improve multimodel communication design

Potts, L. (2009). *Technical Communication Quarterly*, 18, 281–301.

"During the aftermath of recent disasters (both natural and human made), people have communicated by cobbling together available social software resources—relying on the capabilities of Internet tools such as blogs, news sites, and Flickr. Examining the use of social software taking place after the London bombings of July 7, 2005, I propose a method by which we can study users' literate appropriations to shape the development of more accommodating communication systems."

Valerie J. Vance

Wireless insecurity: Examining user security behavior on public networks

Chenoweth, T., Minch, R., & Tabor, S. (2010). *Communications of the ACM*, 53(2), 134–138.

"Our goal was to directly investigate how well wireless users are securing their computers and the threat level associated with wireless networks Any successful security program requires strong policy, communication to all users, education about potential threats and vulnerabilities, and regular reinforcement of policy to maximize user awareness and compliance. A successful security model also requires proactive auditing to measure the level of compliance and network vulnerability, and achieve the desired level of organizational protection."

Sherry Southard

Woodward paths: Motorizing space

Rice, J. (2009). *Technical Communication Quarterly*, 18, 224–241.

"This essay takes up the call for a rhetoric of distributed space by proposing a folksonomic rhetoric. Folksonomies, systems in which users may name any object, space, idea, or image any name they want, offer technical communicators new possibilities for how they work in network environments. As a way to explore the possibility of a folksonomic rhetoric, this essay examines 1 specific space, Woodward Avenue in Detroit, Michigan, as if it were a folksonomic space."

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